

American Artisan and Hardware Record Sheet Metal Work-Warm Air Heating

Vol. 93, No. 26

CHICAGO, JUNE 25, 1927

\$2.00 Per Year

Blame whomever and
whatever you will ~ but
this much depends on **You**

THE competition may be stiff—but nine times out of ten it's fighting for skim milk instead of getting the cream.

Fighting with skimmed furnaces for skimmed jobs instead of selling quality installations with quality furnaces.

If you have sought the easiest way to get business through "the Price Tag way" you have found it the hardest because others had larger and prettier price tags.

If you have been satisfied with the easy business that *did* come your way you have felt the sting of one-time business and lost the joy of healthy business "growing pains."

The warm air heating industry as a whole and especially the National Warm Air Heating and Ventilating Association is asking you to do better installation work by using the Standard Code—asking you to co-operate with it and to share the benefits of its

National Advertising and *it's up to you* to choose a high quality furnace and go ahead.

The Meyer Furnace Company advocates this policy and *makes only a high quality furnace.*

Don't worry about competition—it pays to sell the best and pays well—

Blame yourself just a little—WEIR dealers don't fight over bones—they take the meat—WEIR dealers get *real individual* co-operation—

Many WEIR dealers are taking advantage of the policy laid out by the leaders of the furnace industry—they are progressive warm air heating contractors who are determined on a quality heating business and use the Standard Code or better on their installations.

Write for your copy of
the WEIR Book of Facts
today



The MEYER FURNACE CO.
Peoria-Illinois

MANUFACTURERS

THIS is called *reader interest* and this is the type of reader that makes advertising in American Artisan produce *results*.

State Tile and
Asphalt Roofing
Cutlery
Mixed Paints
Aluminum Ware
Steam Tables
Garden Beds
Etc.



June 7, 1927.

American Artisan,
620 So. Michigan Ave.,
Chicago, Ill.

Gentlemen:-

Our copy of your June 4th issue at this writing has not arrived.

We miss it. Our week is disarranged because of not having the American Artisan.

Undersigned is at sea without your market report page. This is digested immediately upon its receipt. Balance of contents are read at leisure.

Now we understand Uncle Sam makes mistakes too, and really think he has failed to deliver the goods in this instance. So we are not blaming you.

However, send us a June 4th issue of American Artisan at once and if there are any charges, we will gladly remit.

Yours very truly,

CHAS. F. HAUCK & CO.

Per

C. F. Hauck

No. 8
of a
Series
of
Letters



AMERICAN ARTISAN—620 South Michigan Avenue
CHICAGO, ILLINOIS

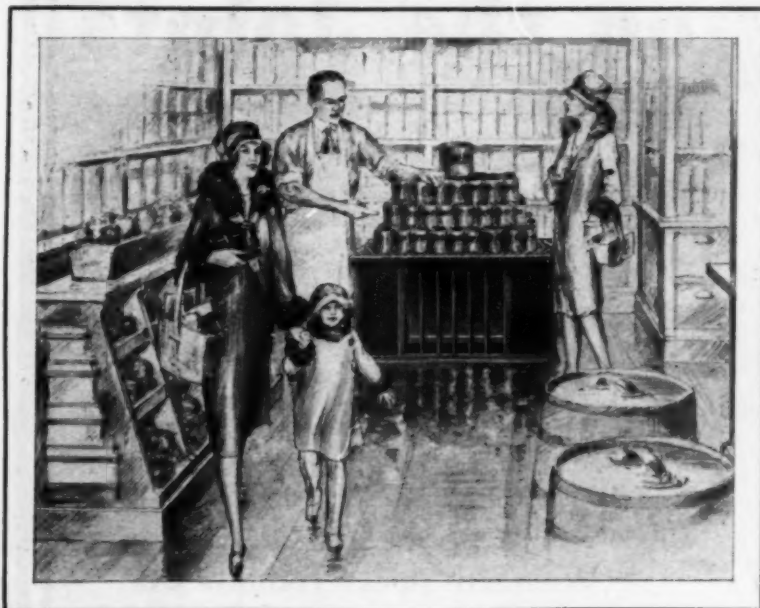
YOU may send us full information concerning your publication and plans for a result-producing advertising campaign.

Name

Address



THE MOST EFFICIENT AND ECONOMICAL HEATER



for
Stores



A re-circulating unit heater that handles the hardest of all heating problems in a new way—with complete satisfaction and at far lower cost! The Majestic Regiseat Heater makes store heating a simple matter—does away with all stoves keeps the fuel and ashes in the basement where they belong—circulates clean, heated air throughout the room or rooms. It is not a “room heater” but a real furnace operating in combination with the exclusive, patented Majestic Regiseat. Entirely different from any other type of register—the Majestic Regiseat discharges an amazing volume of heat—in a manner which insures thorough and immediate circulation. In addition, the Regiseat is a positive addition to the other store fixtures—made for use as a display stand, counter base or cash register pedestal. Majestic Regiseat Heater is revolutionizing store heating. Write for the full story of this new heating development.

Mail This
for the
Sales Opportunity
REGISEAT
Store Heating
Offers You

THE MAJESTIC CO. • HUNTINGTON, IND.

Majestic
REGISEAT
HEATER

THE MAJESTIC CO. • HUNTINGTON, IND.

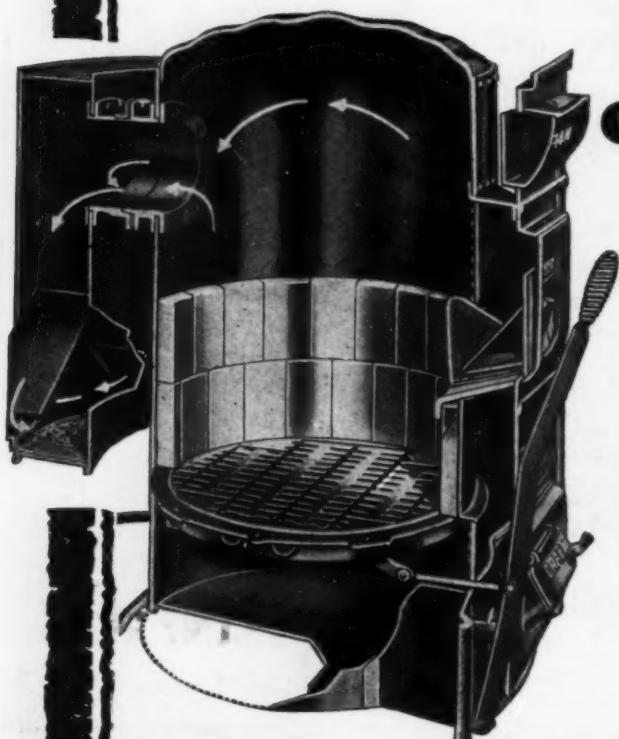
Please send me full information about
the Majestic Regiseat Heater for Stores

Name _____

Address _____

"Western" boiler plate

Saves Strain on the Joints



THE CORRUGATED DOME which is an exclusive feature of the Western Boiler Plate Furnace greatly lengthens the life of the heater.

The Western Furnace has many other practical features of design which make it an unusually easy and satisfactory heater to sell. Joints in the boiler are riveted with cold driven rivets and seams are tightly calked in addition, making the strongest, tightest and most permanent construction known. The radiator walls are made of a single sheet and front extension is one piece with the body. Collar connections have telescopic joint, asbestos packed. Heavy double grates are easily shaken from a standing position.

Ask for our special dealer's proposition which includes long profits, easy terms, and a special selling plan with many advertising helps.

Western Steel Products Co.

130 Commonwealth Ave. Duluth, Minn., U. S. A.

Built for Speed and Endurance, Too—

STEEL construction—airtight and with immense radiating surface—this gives quick heating.

But be sure you get durable, sturdy construction along with steel. You can assure your customers of many years of real severe heating services with the

"HOME

TRADE MARK REGISTERED

"HOME COMFORT"
Steel Furnaces are sold only to the trade—The agency is an assured money maker. Let us outline the Home Comfort Agency plan to you now. Write for our booklet "The Joy of Home Comfort."



NOTICE the large double doors and the solid, sound front construction on the "Home Comfort." The dome is one piece heavy gauge steel plate. The one seam is tight riveted practically welded and is in front directly over the feed door where it is subjected to the least heat.

Write today for complete catalog giving full detailed information and numerous illustrations.

COMFORT"

TRADE MARK REGISTERED

**ST. LOUIS
HEATING
COMPANY**

2901-11 Elliot Avenue
St. Louis, Missouri

PITTSBURGH DISTRIBUTOR
Wagener Bros., 3605 East Street

OPTIONAL equipment that makes it easy to please customers is a feature of the SUPERIOR Warm Air Furnace. Choice of triangular, revolving grates or flat grates with waist high shaker; and either seamless, all cast iron radiator, or permanently sealed steel plate radiator. Let us tell you more!

UTICA HEATER COMPANY, UTICA, N. Y.

365 E. ILLINOIS ST. CHICAGO, ILL.

Makers of Superior Pipe and New Idea Pipeless Furnaces



Seamless All Cast Iron Radiator

No joints to develop gas leakage. Deep, broad heating surfaces and liberal air passages. Unsurpassed for soft coal or wood.



Steel Plate Radiator

Responds quickly with hard coal. All seams are safely and permanently sealed with special asbestos cement.

SUPERIOR WARM AIR FURNACE

SUPERIOR DEALERS ARE EXCEPTIONALLY LOYAL — Why?

Make Better Sales With These Better Wise Furnaces

Wise dealers and many new Wise dealers are now confining their purchases to one house because they find in the Wise line a complete quality line.

NOTICE that Wise has eliminated the big weak spot in steel furnace construction. The bottom of the radiator has a CAST IRON SOOT BOX AND CLEAN OUT.

RIVETED AND WELDED BODY — SPECIAL DESIGN GRATES and LEVER SHAKER HANDLE.

Other features too—and a guarantee that helps you sell this quality steel furnace.



WISE STEEL FURNACE

THE Wise Open Dome Furnace has been greatly improved. The new Wise ONE-PIECE Cellular Firepot allows the air to become thoroughly preheated before entering above and into the fuel. Another feature is the Elbow Shaped Flue Collar on inside of Radiator which is turned up so all of the heat must follow the castings to the top before entering flue.



WISE OPEN DOME CAST FURNACE



WISE 20 SERIES CAST FURNACE

THE Wise 20 Series has a New Patented Radiator. Construction allows communication between feed chamber and top radiator which brings the opening of the fire flues of the radiator directly into the feed chamber, making the flues readily accessible for cleaning through the upper feed door. The dirt falls directly into the firepot. This is a big advantage to the owner as a radiator that is easy to keep clean will be kept clean.

The New Wise CELLULAR FIRE POT is also a feature of this furnace.

Write for special circular today.

The WISE FURNACE COMPANY
AKRON, OHIO



THE day of expecting to have a flourishing business just by sitting around tending shop is *past*.

Pick out the most prosperous merchant in your town and you'll find that he is alive, progressive and that he *goes after business*.

Everybody needs a *heating plant* of some kind and the fact that you sell warm air heating—the *best form of heating*—is in itself the big reason why you can get *more heating business* and the bulk of it if you *go after it*.

Do the best installation work (Standard Code) and handle a high quality line of furnaces and *let your prospects know about it*.

ATH-A-NOR and SOLID COMFORT furnaces go hand in hand with the best installation work and the progressive dealer because they *make good*.

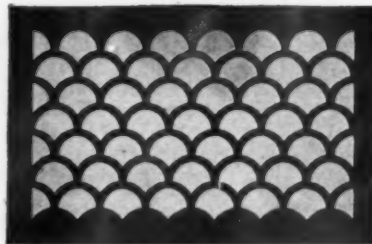
Quality is the highest, workmanship the finest and efficiency and economy is second to none.

The famous Three-Way Air Blast is an exclusive feature of ATH-A-NOR furnaces that clinches sales—let us tell you all about it—write today.



**The MAY-FIEBEGGER
FURNACE CO.**

Newark, Ohio



Class 578 Grille

H & C Grilles, fabricated with the same care and precision that have made the Air Capacity Line of Registers a by-word for quality, stand second to none in workmanship and finish.

Roxy's Theatre in New York is but one of many recent important installations.

Grilles of steel, brass or bronze metal—any finish.

Send for catalog showing complete line of grille patterns.

The Hart & Cooley Mfg. Co.
New Britain, Conn.

New York

Chicago

Philadelphia

REPAIRS

for **STOVES-FURNACES-BOILERS**

Send for our illustrated Order Blanks

NORTHWESTERN STOVE REPAIR CO. CHICAGO-ILLINOIS

**The
NEW**

**TEELA
BOLTLESS
REVERSIBLE CHECK DRAFT**

EASY to install:
simply cut a round hole in smoke pipe and **CLAMP** on the TEELA check draft.

Reversible — no tee joint needed.

Fastened by clamp—no bolts necessary.

Easy to remove when smoke pipe is worn out — loosen clamp, slide check off.

Cuts labor one-third—makes profit larger.



Write for
circular

and prices
today

TEELA SHEET METAL CO., - - OSHKOSH, WIS.

Makes Pocketbooks Comfortable, too

This great new Series "C" Moncrief Furnace which so easily fills the house full of heat, also fills the furnace man's pocketbook full of money.

There are so many big points of superiority to this new Moncrief Furnace that it is no job to sell it, and installing is just as easy.

*Write for details of our
money-making proposition*

The HENRY FURNACE & FOUNDRY CO.

3471 E. 49th St. Cleveland, Ohio

*We supply everything used
on a warm air heating job.*

Distributors:

Carr Supply Co., 412 No. Dearborn St., Chicago, Ill.
Johnson Furnace Co., Kansas City, Mo.

E. W. Burbank Seed Co., 29 Free St., Portland, Me.

J. F. Conant, Railway Terminal Warehouse,
Troy, N. Y.

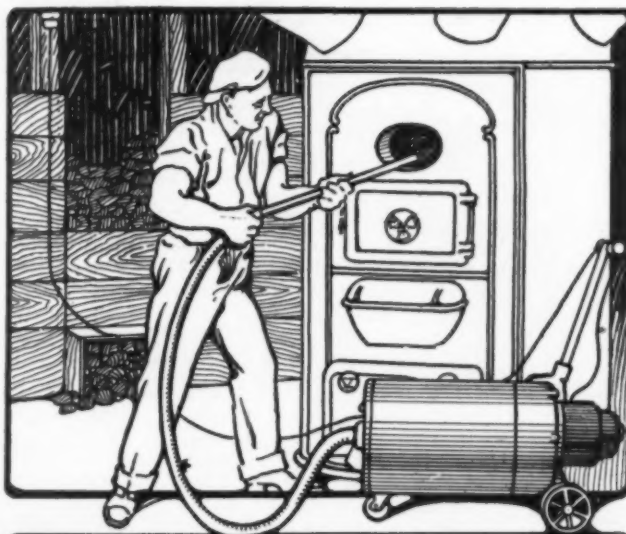
Wilkes-Barre Hardware & Stove Co.,
18-20 So. Washington St., Wilkes-Barre, Pa.

Moncrief Furnace Co., Atlanta, Ga.

Moncrief Furnace & Mfg. Co., Dallas, Texas



MONCRIEF FURNACES



Clean furnaces this NEW QUICK WAY!

TRY this new method for cleaning furnaces. It's the biggest time and labor saver on the market.

Now you can clean from five to eight furnaces a day and do a more thorough cleaning job by using the Sturtevant Furnace Cleaner.

By offering this cleaning service, you not only make a reasonable profit on the cleaning but you have an excellent chance to supply extra or new parts for furnaces if any are needed, also an opportunity to sell new furnaces if the old ones are badly worn.

The Sturtevant Portable Suction Cleaner is simply and ruggedly built, has a powerful suction, is easy to handle and can be operated from an ordinary electric light socket.

Don't delay investigating this new way to clean furnaces. Others are successfully using it. Write us NOW for further information on the Sturtevant Furnace Cleaner.



HYDE PARK,

BOSTON, MASS.

B. F. Sturtevant Company,
Hyde Park, Boston, Mass.

Dept. A. A. 6-25

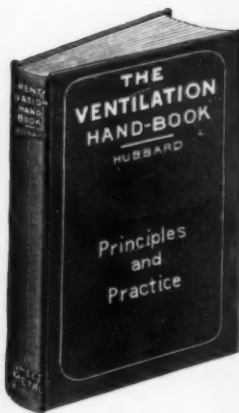
Without obligation to me, send along further information and price on the Sturtevant Portable Furnace Cleaner.

Name

Address

City..... State.....

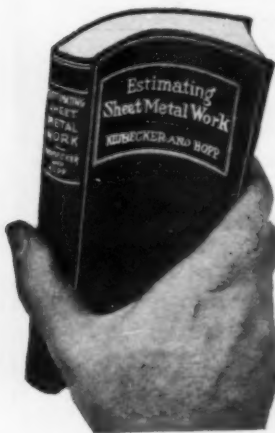
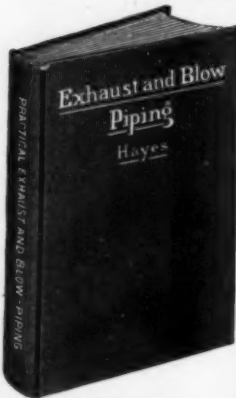
THOUSANDS have perfected their training and increased their efficiency and earnings by reading these *easy-to-read* books on SHEET METAL WORK



THE VENTILATION HANDBOOK A PRACTICAL book designed to cover the principles and practice of ventilation as applied to furnace heating; ducts, flues and dampers for gravity heating; fans and fan work for ventilation and hot blast heating by means of a comprehensive series of questions, answers and very plain descriptions easy to understand. By Charles L. Hubbard.
Price.... **\$2.00**

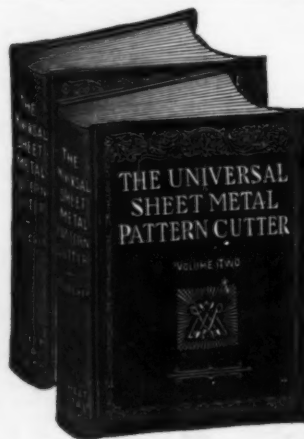
HAYES PRACTICAL EXHAUST AND BLOW PIPING

EXHAUST and Blow Piping has had an unusually big demand. A fresh supply is now off the press and is in our hands for immediate delivery. It has an invaluable treatise on the planning, cost, estimation and installation of fan piping in all its branches, giving all necessary guidance in fan work blower and separator construction. 159 pages, 5 x 8. 51 figures. By Hayes. Cloth **\$2.00**



ESTIMATING SHEET METAL WORK

ANOTHER good book by Wm. Neubecker and A. Hopp. This is a new edition. A manual of practical self-instruction in the art of pattern drafting and construction work in light and heavy gauge metal, including skylights and roofing, cornice work, etc. 417 pages; 4 1/2 x 7 in.; 215 figures. Cloth, Price **\$3.00**

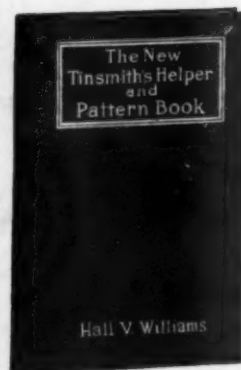


Every Sheet Metal worker should own this 2 Volume Encyclopedia of Sheet Metal Working

THE most practical and useful treatises on the subject. Work of all the branches of the trade and the broadest scope of details are found—inside and outside work—small jobs and the most complicated are shown, explained and profusely illustrated. The first volume deals with all types and kinds of inside small and large sheet metal work. The second volume deals with the more advanced branches of sheet metal work, in fact is largely devoted to the architectural end of the business. It consists of 400 double column pages and is illustrated with 711 engravings showing all methods under treatment, as well as perspective views of the subjects of the patterns, and other demonstrations in their finished state. It includes drawing, full sized detailing and lettering, development and construction of all forms of sheet metal construction work. The volumes are bound in heavy cloth and each measures 9x12 in. Each contains over 350 pages and 650 original drawings. Price each..... **\$7.50**

\$3.00

THE NEW METAL WORKER PATTERN BOOK IT contains solutions of individual pattern problems in every department of sheet metal work, giving the complete methods of laying out all forms of work. It covers every detail from the selection of tools, through Linear and Geometrical Drawing, to development of Difficult Problems by Triangulation. This revised edition contains a series of automobile patterns. These include laying out guards, fenders, cowls, skirts, hoods, etc. It has 514 pages, 895 illustrations and diagrams, measures 9x12 inches and is cloth bound. Price **\$6.00**

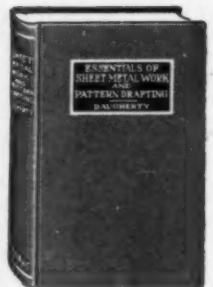


THE NEW TINSMITH'S HELPER AND PATTERN BOOK

A NEW edition of one of the most popular books on tin-smithing and elementary sheet metal work. The contents of this new edition are new excepting the chapter on Mensuration, which has been re-arranged and amplified, and possibly some fifty pages of problems and tables which are classified to the phase of the work they cover. This book covers simple geometry and every phase of modern pattern cutting, from the making of every type of Seam, Lap and Joint, to Conical Problems and Tinware, Elbows, Piping, Ducts, Gutters, Leaders, Cornice and Skylight Work and Furnace Fittings. 352 pages, 247 figures and 165 tables, flexible leather bound and measures 4 1/2 x 5 inches. By Hall V. Williams. Price..... **\$3.00**

ESSENTIALS OF SHEET METAL WORK AND PATTERN DRAFTING

A BOOK produced by the combined efforts of L. Broemel and the late Professor J. S. Daugherty, instructor in Sheet Metal Work at the Carnegie Institute of Technology. Pattern drafting is its biggest feature; not only tells how to make the pattern, but how to develop it with modern machines and tools; gives valuable assistance on soldering, brazing, welding, crimping, beading, straight, circular and irregular cutting. Bound in leatherette; 500 pages; more than 400 pen drawings and illustrations. Price **\$2.00**



Books Wanted

AMERICAN ARTISAN, 620 S. Michigan Ave., Chicago, Ill.

For the enclosed \$..... send the books ordered and enter following subscription (or renewal.)

Name.....

Address.....

NOTE

Deduct 10% from TOTAL amount of order when subscription is included with order for books.

When writing mention AMERICAN ARTISAN—Thank you!



A high quality furnace designed according to the Standard Code requirements for Standard Code installations

The NEW FLORAL CITY QUEEN FURNACE

THE size of the casing and the relation of radiating surface to grate area have been carefully figured out according to the Standard Code and the ratings on this furnace are also as determined by the Code. That's a good selling point to make along with your Code installation—a real Code furnace.

Here are Some of the New Features:

1. Large one-piece cast radiator with extra large opening from combustion chamber with direct-indirect draft damper.
2. Smoke and cleanout collar extend through the casing and front. Throats of feed door and ash pit extend through front and both doors and throat are disc ground to insure perfect fit.
3. Only four joints inside casing and these joints are extra deep covered joints.
4. Extra large water pan—lever shaker handle—rocker type grates—heavy ribbed two-section straight fire pot—large one-piece roomy ash pit and other improvements.

Write for our agency proposition today

Floral City Heater Company

MONROE, MICHIGAN

CHICAGO OFFICE
1654 Monadnock Building

DETROIT BRANCH
4452 Cass Avenue

PATTERNS FOR STOVES AND HEATERS

THE CLEVELAND CASTINGS PATTERN COMPANY
CLEVELAND, OHIO

PATTERNS

FOR STOVES AND HEATERS FIRST-CLASS
IN WOOD AND IRON
VEDDER PATTERN WORKS ESTABLISHED 1835 TROY, N. Y.

IRON AND WOOD STOVE PATTERNS

QUINCY PATTERN COMPANY
QUINCY, ILLINOIS

Books

We can supply you with any book published for the Sheet Metal Worker, Warm Air Heater Installer or Automobile Radiator Repairer.

Tell Us
to send you a copy of our
10 page book catalog

AMERICAN ARTISAN
—AND—
HARDWARE RECORD

620 South Michigan Ave.
Chicago, Ill.

Traveling East or West

A restful night on beautiful Lake Erie—to or from Niagara Falls, will add enjoyment to your trip. Palatial steamers—Unlimited facilities, including large airy state-rooms, excellent dining room service.

Daily May 1st to November 14th—Each Way Every Night between
Cleveland and Buffalo

Leaving 9:00 p. m., arriving 7:30 a. m. (Eastern Standard Time)
Write for new Steamer Schedule between Cleveland and Buffalo via ERIE during July and August

Connections at Buffalo for Niagara Falls, Eastern and Canadian points. Connections at Cleveland for Cedar Point, Put-in-Bay, Toledo, Detroit and points West.

Our new 32-page Tourist Guide with complete information and maps will be mailed free—on request.

Ask your ticket agent or tourist agency for tickets via C & B Line. Your rail ticket is good on our steamers.

The Cleveland and Buffalo Transit Co.
Cleveland, Ohio

FARE \$5.50

New Auto Rate \$5.00 and up

BOLTS

WE MANUFACTURE A COMPLETE LINE OF BOLT PRODUCTS, INCLUDING STOVE BOLTS, CARRIAGE BOLTS, MACHINE BOLTS, LAG BOLTS, NUTS, COTTER PINS, ETC. ALSO STOVE RODS, SMALL RIVETS AND HINGE PINS, CATALOG ON REQUEST.

THE KIRK-LATTY CO.
1971 W. 85th St. Cleveland, O.

Founded 1880

Published to Promote
Better
Warm Air Heating
and
Sheet Metal Work

American Artisan and Hardware Record

Sheet Metal Work-Warm Air Heating

Yearly Subscription
Price:
United States.....\$2.00
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CHICAGO, JUNE 25, 1927.

\$2.00 Per Year.

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A SERVICE TO OUR READERS

At the Peoria convention of the Western Warm Air Furnace and Supply Association held recently the question was asked from the floor, "In what way will the addition of a fan to a perfect warm air heating system improve that system." This question has caused a great deal of comment among the trade. It is the intention of AMERICAN ARTISAN to present to its readers as a part of its service the opinions of representative men on this question. As soon as these are all received they will be presented.

Would You Shut Up Shop for Three Months?

When the first roller skates of spring clatter down suburban streets and the green begins to appear on the lean willow twigs, a curious madness seizes upon some people. They dictate a note to the general effect that their advertising will be cut in half or discontinued entirely during June, July and August. Having sent this note to their advertising agent or to a list of publications, they, in the manner of men who have accomplished a clever piece of work, set off for the links to try out the new mashie.

But we wonder if the men who dictate such notes in the spring realize what they are really saying to their own organizations. Some self-styled experts have maintained that advertising is 23 per cent less effective during the three summer months. This statement is not conceded but, in the manner of Hans Christian Andersen, let's suppose it is true. Were the owner of a business to weigh the effect on his own organization against that supposed saving, he would never send the note. What such a note actually says to the man's own organization is "Let's all take it easy. We are not going to make any effort to help make your selling easier, gentlemen of the sales force. Here, then, are three lovely months in which you may improve your golf game. Instead of going out hard after orders this July, why not get rid of that disconcerting slice which robs your drive of at least twenty yards in distance? Don't work, office boy. Go to the ball game. Use that new bathing suit at least three times a week, stenographer."

An order cutting down advertising effort is notice in advance that a period of undisturbed and restful calm is expected by the management. No need to rush about after prospects — here comes a period of comforting repose.

Don't write letters or make selling plans; go out in the woods to loll at leisure under a sycamore tree.

Don't work very hard; just drone and dawdle through the drowsy days ahead.

Relax. Let down. Be languid. Not much doing in the summer months, so take it easy.

If, when he was dictating a seasonal note to cut down his company's advertising effort, the president would consider himself posting around the plant sentiments like these, he might hesitate.

And now to add one serious word of advice to a somewhat satiric treatment of the dangerous habit of cutting off advertising effort in the summer months: Let all advertisers consider carefully what other concerns have done to knock out the so-called "summer slump" before they decide not to advertise.

Remarkable things have been accomplished by men who analyzed their markets and products more carefully, who refused to believe that customers spend three months in a hammock under the trees.

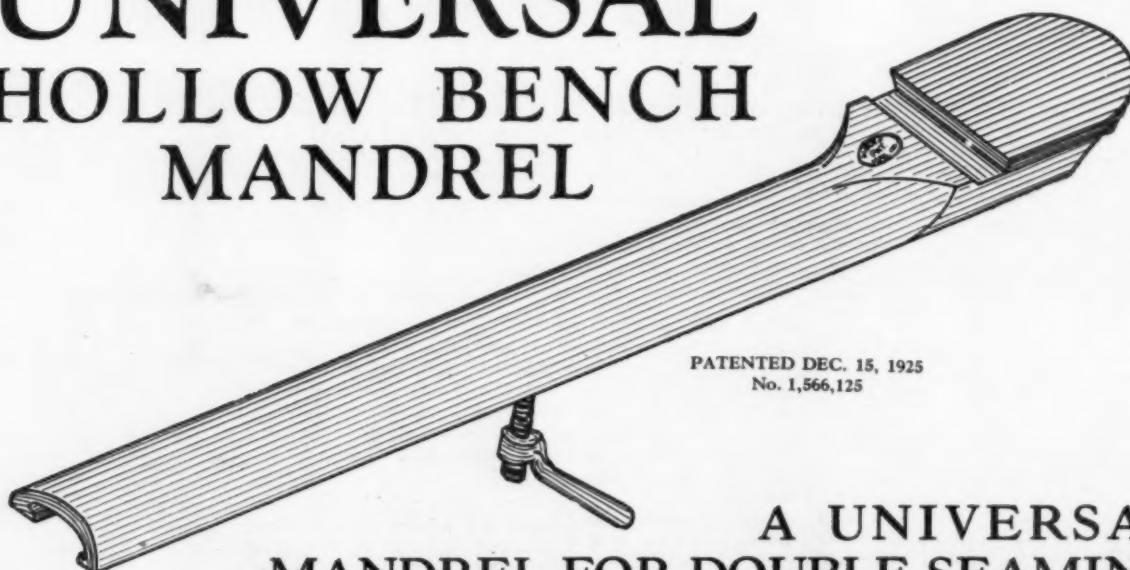
And every time real results in taking sales slumps out of summer have been attained, advertising has played a most important part.

This summer of all summers during the past five years, is most dangerous to the man who thinks he can cancel advertising and travel on momentum.

There will be ample business next fall for the people who keep after it during the dog days. But those misguided ones who serve notice on their whole organization to take it easy by cancelling advertising during the summer are going to discover when fall comes that consistent advertising and sales effort during this important summer have given their competitors a big head start.

*Editorial reprinted from
PRINTERS' INK*

HYRO UNIVERSAL HOLLOW BENCH MANDREL



PATENTED DEC. 15, 1925
No. 1,566,125

A UNIVERSAL MANDREL FOR DOUBLE SEAMING ON CURVES AND SQUARE WORK

Adjustable Heads that can be easily and quickly set to accommodate any form of double seaming, riveting, etc., in duct work.

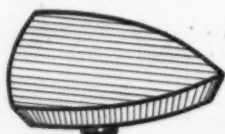
The HYRO UNIVERSAL HOLLOW BENCH MANDREL will make a valuable addition to any sheet metal shop because it gives the sheet metal worker one rigid tool on which he can easily and neatly double-seam practically every conceivable shape in duct work.

This mandrel is so made that one end can be used in the same manner as the old conventional hollow bench mandrel. The other end accommodates any of our standard heads. Each head or anvil is adjustable and can be easily, rigidly and quickly locked to any required position. This unique combination enables the sheet metal worker to handle practically every conceivable shape. The heads also make very useful dolly bars.

STANDARD HEADS



HEEL SHAPE
No. M-1



FLAT IRON SHAPE
No. M-2



HALF ROUND SHAPE
No. M-3

Each Mandrel is furnished complete with one standard head, bolt, handle, and wrench for front set screw. Unless otherwise specified, the Heel Shape Head, No. M-1, will be furnished with the Mandrel. The Universal Bench Mandrel is 40" long and weighs 53 pounds.

Ask Your Jobber — If he Cannot Supply You — Ask Us

HYRO MANUFACTURING CO., Inc.
350-360 West 13th Street
New York, N. Y.



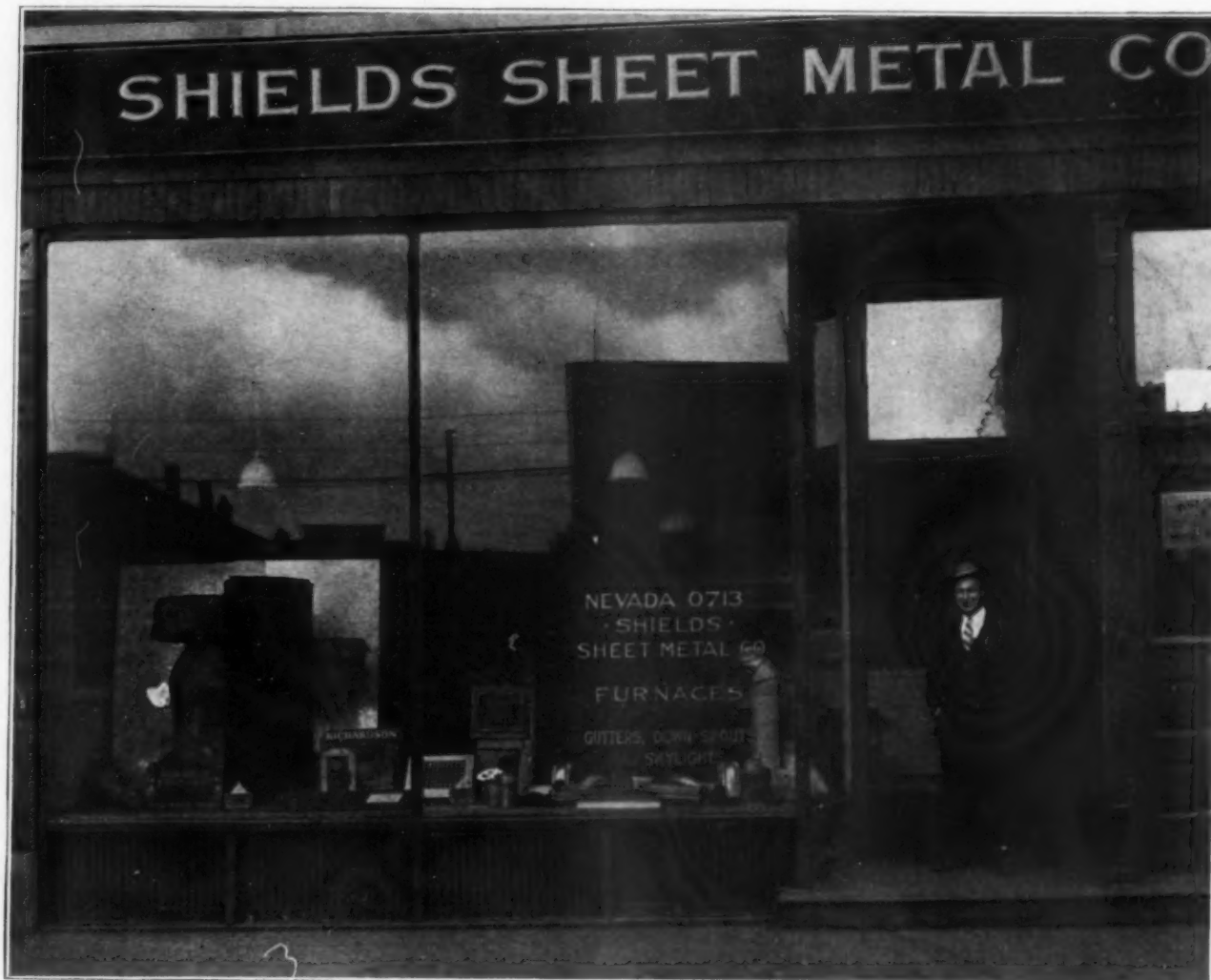
American Artisan and Hardware Record



Vol. 93.

CHICAGO, JUNE 25, 1927

No. 26.



Warm Air Furnace and Sheet Metal Window Display of the Shields Sheet Metal Company, 4221 Madison Street, Chicago.
P. R. Shields, the President of the Company, in the Doorway

P. R. Shields Finds Sheet Steel and Copper & Brass Advertising Brings Business

*Sheet Metal Contractors Must Go Out
After Business Harder Than Ever Now*

By GEORGE J. DUERR

THE sheet metal contractor and warm air furnace installer who gets business in times like these is the man who goes out after business, who follows up leads and is constantly and insistently keeping

himself and his business and his service before those people who are in a position to use that service. This is the opinion of P. R. Shields, President and general manager of the Shields Sheet Metal Company,

4221 Madison Street, Chicago, Illinois.

Although Mr. Shields has only been in the warm air heating and sheet metal contracting business "on his own" for a little over a year,

he has had long experience in the business. In his short experience in his own business, however, he has so successfully applied the tactics of his own manufacture and the



**KEEP YOUR HOME
COMFORTABLE
with WARM FRESH AIR**

Shields Sheet Metal Co.

4221 West Madison Street
Telephone Nevada 0713
CHICAGO

Circular Used by Company

proved methods of others that he is well on the way to a permanent achievement in service.

Mr. Shields is a staunch believer in the saying that cleanliness is next to Godliness. One of the first things he did when he went into business for himself was to select a location on a main thoroughfare—West Madison Street. Great care was exercised to make the office and display window as attractive as possible. The window display, as shown in the accompanying illustration, is always kept clean and well arranged. One half is always given over to warm air heating and the other half to sheet metal products. These displays are varied with the seasons, of course, sheet metal roofing and guttering being featured in the spring of the year.

Mr. Shields has developed some very definite ideas about the value of various kinds of advertising. His opinion is that advertising on theater programs, dance programs, church bulletins and other similar

mediums has little if any value; that a contractor must learn to take a definite stand and confine himself to a strict budget schedule on this type of advertising if he does not wish to come to grief.

"It works this way," said Mr. Shields, "a solicitor comes into the place and asks for an ad on a dance program. He tells you as how you should support the community activities and works on your sympathetic nature to the extent that you agree to take an ad on the program.

"From then on you will have all the program advertising solicitors in the neighborhood in your place telling you as how you should support the community activities. It will have no ending, and before you know it you will have invested a goodly sum of money in advertising ventures of questionable value. It is impossible to trace any definite results from this source, either in actual business or good will. It is

It is a fine thing. It is creating demand for our products and services which did not exist before.

"We aim to tie up to this type of advertising in every way that we can. We use the direct-by-mail system quite extensively and have found it to fill our needs very satisfactorily. We find that if suggestions are mailed at appropriate times to a select list of property owners and then followed up properly, we can build up a satisfied clientele and that is what we have succeeded in doing so far.

"We have tried blotter advertising, but do not think much of it. We have found that to address the man of the house in a letter direct is one of the best ways of getting our message over to him. You cannot expect immediate results. A letter reaches a man in his home. Perhaps he doesn't need your service at the time the letter arrives. He puts it aside and forgets about it.

**Suppose You Decide To Sell Your House,
And Your Best Prospect Comes To Look
The Place Over On A Rainy Day, Those
Leaky Gutters Might Kill The Sale.**

BETTER HAVE THEM FIXED

NOW Phone For An Estimate
No Obligation

SHIELDS SHEET METAL CO.

4221 W. Madison St.

Phone Nevada 0713

Postal Card Mailed to Select List of Prospects

my opinion that the only way a contractor can go into this type of advertising is to set aside a certain sum for that purpose at the beginning of the year and portion it out."

In answer to the question, "are you able to trace any of your demand to the advertising done by such organizations as the Sheet Steel Trade Extension Committee and the Copper & Brass Research Association," Mr. Shields replied: "Yes, we have in several instances been able to trace telephone calls and inquiries to this type of advertising.

A little later on he is again reminded by the same contractor of the possibility of needing the services of a sheet metal or warm air heating man.

"Perhaps this second time the letter will suggest an idea to the man of the house. Here we have something definite and tangible, because when the telephone rings the man at the other end who has received our letter tells us so.

"One of the reasons why a great many sheet metal contractors do not get a lot of the jobs they go after



Truck of Shields Sheet Metal Company Used During West Town Better Business Campaign Staged by Douglas Park Business Men's Association

is that they do not follow up their bids. They submit a bid, and then just because they do not hear anything more about it, they assume that someone else got the job and let it go at that.

"In many cases this is not true at all. Often the owner has not got to the point where he is ready to let the contract for that part of the work and is just allowing the matter to ride for the time being. Under these circumstances the contractor who keeps reminding the owner of himself in a diplomatic manner is pretty sure to line up the job; whereas, if he allows the matter to slide, he is missing a good opportunity."

Mr. Shields believes there is a definite advertising value in parades with floats, etc., such as are staged by chambers of commerce. The accompanying illustration shows a float which the Shields Sheet Metal Company had in connection with the dedication of the opening of Madison Street a short time ago.

The Garfield Park Business

Men's Association, of which Mr. Shields is a member of the board, is planning to stage another similar celebration and the Shields Sheet Metal Company will be represented.

The Window of the Shields Sheet Metal Company is so arranged that it is illuminated at night. The furnace has a red light inside of it which draws attention to the store. Note that the name of the company is placed on the window at a height on a level with the pedestrian's eyes. The telephone number stands out in bold relief.

The Shields Sheet Metal Company uses Keystone copper steel exclusively and handles the Richardson & Boynton warm air furnace.

* * *

Here is a specimen of a letter used by the Shields Sheet Metal Company in its direct-by-mail work sent out to a selected list of prospects under the company letter head:

"Spring is here, and at this season of year it is only natural that our thoughts turn to anticipation of

the bright and wholesome out door life that accompanies it.

"However, spring also is usually accompanied by its heavy rains and intermittent showers and it might therefore be wise to inspect your gutters and downspouts, it may be that a few minor repairs properly made, will prove sufficient, or maybe it will be necessary to install new ones, in either event we offer you our best service and equipment.

"How did the old furnace respond during the cold months of the past winter? Did it draw well? Are some of the stacks damaged? Or is it only in need of a good cleaning out?

"We believe we know our business and if you'll kindly 'phone or call on us, we will cheerfully submit estimates at no cost or obligation whatever to you."

If you have some interesting feature about your business that you would like to pass on to other sheet metal men, send it to us for publication.

Figuring Warm Air Heating Installations on Contract Labor

William C. Grolbert Finds Error in Sam Sorensen's Method of Estimating

IN a recent issue of *AMERICAN ARTISAN* "Furnace Salesman" asked for information on the labor costs in connection with the installing of a warm air furnace.

In later issues Sam J. Sorensen and H. F. Iler gave their methods of arriving at the labor costs.

Now, William C. Grolbert, proprietor of the W. C. Grolbert Sheet Metal & Heating Company, 31 North Arlington Street, Akron, Ohio, gives his method of arriving at the labor costs. Mr. Grolbert is also a very successful warm air furnace installer and, therefore, can speak with authority.

"We conduct our business on contract labor only, and have found that to be the best policy in all our experiences. Here is our schedule on new work:

Roughing in Furnaces

2 runs down 3 up.....	\$6.50
Extra run down50
Extra up	1.25
Clothes chute	1.25
Extension from 1st floor.....	.50
Extension from 1st floor to attic	1.00

Apartments same as single house, plus extras of single house.

Setting Furnaces

5 runs 1 cold air	\$12.50
Each extra run	1.00
Extra cold air complete.....	2.25
Extra two in one cold air...	1.00

Old work is double new on roughing. Setting and replace work is 50 per cent higher than new work.

In re-figuring overhead, I notice that Mr. Sorensen is mistaken on arriving at a selling price of \$277. He has arrived at overhead at 10 per cent of selling price and has figured 10 per cent on costs. Further, 20 per cent of costs and 5 per cent of costs, based on selling and not cost, would make 10 per cent overhead, 20 per cent profit, 5 per

cent safety. Thirty-five divided by 65 makes 54 per cent of material and labor, or \$108.00. The selling price should be \$308.00.

There are a great many sheet metal and furnace contractors who estimate their overhead on volume business and figure overhead on cost of material and labor. In the example Mr. Sorensen would be off just \$31.00.

Take \$308.00 selling price—	
10 per cent overhead	\$30.80
20 per cent profit	61.60
5 per cent safety	15.40

Add the three items together and it totals**\$107.80**

Now the contractor has really made 20 per cent profit, 5 per cent safety and 10 per cent overhead. If every sheet metal contractor uses this example for estimating costs, he cannot lose money.

I have been asked many times to give my views on productive labor for overhead.

I do not think on job work and furnace work it will pan out. First the uncertainty of weather, second slump in business enter in the question. On manufacturing I should say productive labor would be the best way to figure overhead.

As an example, I will show how we would determine the price to the consumer on a warm air furnace installation for a two-story, six-room, with bath, house having a 24 by 24-foot foundation.

The material that will be required includes one double and two single heads on the second floor; one double and one single head on the first floor. There will be three 10-inch and two 12-inch warm air runs.

Furnace, casing and labor (contract labor), \$88.00. Warm air pipe, wall pipe, boxes, boots, angles, cold air and register, \$43.00. Giv-

ing a total cost of material and labor, \$131.00.

Now we include 20 per cent for overhead, and 20 per cent for profit, which equals a total of 40 per cent. Forty per cent subtracted from 100 per cent equals 60 per cent. Forty divided by 60 equals $66\frac{2}{3}$ per cent or, roughly, 67 per cent, which is the markup on the cost of materials and labor. Sixty-seven per cent of \$131.00 or 67 per cent of the cost of materials and labor equals \$87.60. Adding \$131.40 and \$87.60, we arrive at the selling price of \$219.00. In order to prove this, take 20 per cent for profit and 20 per cent for overhead from \$219.00, and we get \$43.80 twice, which equals \$87.60. This amount subtracted from \$219.00 equals \$131.40, the cost of the labor and materials. The 40-cent differential appears as the result of the difference between $66\frac{2}{3}$ and 67 per cent.

Fred F. Foster and Associates Form Miami Valley Hardware Co.

Fred F. Foster and associates, Joseph J. Schad and Alfred H. Cade, have incorporated the Miami Valley Hardware & Supply Company, of Dayton, Ohio, for \$50,000 and will conduct a wholesale and jobbing business in hardware and kindred lines.

Mr. Foster, it will be remembered by readers of *AMERICAN ARTISAN*, was formerly connected with the Milwaukee Corrugating Company in their furnace pipe division, but resigned his position with that company the first of the current year. Prior to going with the Milwaukee Corrugating Company Mr. Foster was with the W. E. Lamneck Company, Columbus, Ohio. The entire trade wishes Mr. Foster and his associates all the success in

the world in their new venture. Mr. Foster's present address is 41 West Third Street, Dayton, Ohio.

**Third Edition of
House Heating With Oil Fuel
by P. E. Fansler Out**

The rapidly increasing demand for accurate and authentic information on the use of oil fuel for domestic heating will find in the third edition of "House Heating With Oil Fuel" the most comprehensive survey and analysis of this important new industry that has appeared. That the subject is completely covered is shown in the fact that 34 chapters aggregate nearly 400 pages; there is no padding through the insertion of extraneous matter and the text is "oil burner" from beginning to end.

The burning of oil fuel is seen in an entirely new light and the story of the chemistry and mechanics of combustion are so vividly presented that even the non-technical reader can visualize what is happening in the combustion chamber of an oil-fired burner.

Using a unique method of presentation, nearly thirty of the outstanding domestic oil burners are described in their characteristic essentials.

The application of oil burners to warm air furnaces at the present time is demanding no small amount of attention, and a separate chapter is devoted to this subject. A chapter on "Buying an Oil Burner" and one on "Selling Oil Burners" are filled with data and suggestions of value to the manufacturer and his representatives as well as the intending purchaser. The chapter "Installing the Oil Burner" is probably the most comprehensive analysis of the problems involved and statement of accepted practice that has yet appeared.

Other important chapters are headed "The Underwriters' Regulations," "What the Underwriters' Listings Mean," "Domestic Oil Burners Listed by the Underwriters' Laboratory" (with a chronological list of the burners that have been passed by the underwriters and an alphabetical list of

the burners now listed, complete to May 1, 1927). The chapter "Oil Burner Fires" includes the first analysis of oil-burner fires made by the National Fire Protection Association and the National Board of Fire Underwriters. The Iso-Oil-Consumption Chart, by means of which the quantity of oil fuel required to heat any building in any part of the country accurately can be determined, is one of the valuable features of the volume. The

chapter on this subject includes several original charts, and the basic Iso-Degree-Day Chart in colors forms a frontispiece to the volume.

In the 354 pages, with nearly 200 photographs and drawings, practically all of them made especially for this book, the reader interested in this subject will find every phase covered by an acknowledged authority on this important new industry. The price of this publication is \$4.00 a copy.

**Reid A. Cameron and R. B. Russell
Join L. J. Mueller Furnace
Organization**

**To Work in Gas Sales Division Forces—Both
Men Have Wide Experience in That Line**

THE L. J. Mueller Furnace Company, 197 Reed street, Milwaukee, has recently secured as district managers, Reid A. Cameron and R. B. Russell, in their gas sales division, according to L. Y. McAnney, sales promotion manager.

Mr. Cameron is widely known in the gas industry and will act as manager of the Chicago district, comprising Illinois, Indiana, Iowa and Michigan. His background of training and experience fit him particularly to serve the industry in increasing gas utilization in home heating.

Before serving with the Pittsburgh Water Heater Company as general sales manager, Mr. Cameron spent some fifteen years with the People's Gas Light & Coke Company of Chicago, advancing from cadet engineer through successive periods including gas maker, fitter, chemist, until he organized and directed their heating section. He commences his new work at once, and will maintain headquarters in Chicago.

R. B. Russell, who will manage the Kansas-Oklahoma district for company, served as works manager for the P. B. Yates Machine Company of Beloit, Wisconsin, from 1912 through 1917, and for the next three years acted as sales agent for six manufacturers covering the east

north central states.

Several years in the heating industry added to his broad background of organization and sales work eminently fit him to co-operate with the gas industry and heating trade throughout the Kansas-Oklahoma district. Mr. Russell will have headquarters in Kansas City, Missouri.

**What Is a
Hardware Store?**

Business has discovered that what it has been calling a hardware store is no longer distinguished by the fact that it is a place where hardware is sold. The Department of Domestic Distribution of the Chamber of Commerce of the United States points out that, as a result of the recent distribution census of Baltimore, no less than forty widely different kinds of commodities are sold in what we still call hardware stores.

In the heterogeneous stocks are furniture, gasoline, groceries, radio sets, magazines, toys, fertilizer and leather goods. The same census reveals that jewelry is sold in drug stores, women's hosiery in candy stores, hats and caps in shoe stores and tobacco in bakeries. Apparently the only type of store which sold a single class of commodities is disappearing.

Random Notes and Sketches

By Sidney Arnold

"The essence of humor is sensibility; warm, tender fellow-feeling with all forms of existence."—Carlyle.

I had a most enjoyable visit with William F. Wahler, 3715 Elston Avenue, Chicago, on Monday of this week. Mr. Wahler is a very progressive warm air heating and sheet metal contractor. He is an associate member of the National Warm Air Heating and Ventilating Association and a member of the Cook County Sheet Metal Club. He has an up-to-date shop and sales-room and employs modern methods in his business. It is a pleasure indeed to visit men of this type in their shops and to see them at their work.

* * *

Just Dues

An Englishman and an Irishman, riding together, passed a gallows.

"Where would you be," said the Englishman, "if the gallows had its due?"

"Ridin' alone, I guess," said the Irishman.

* * *

Perhaps

Mrs. Knowall took a great interest in the doings of all the neighbors.

"Well," said her husband, when he returned from business in the evening, "have you found out anything about the social standing of the new folks across the street?"

"Not yet," was the reply. "They have no car."

"No?"

"Yes, and they have no pom, no phonograph, no radio, and not even a grand piano. I can't imagine what they have got."

"Humph," remarked the husband, "perhaps they have a bank account."

* * *

I also paid a visit to the Shields Sheet Metal Company, 4221 Madison Street, Chicago, on Monday of this week. Here I had the pleasure of making the acquaintance of P. R. Shields, president and manager of this progressive company. Mr. Shields, although not new in the

warm air heating and sheet metal industries, has only been in the business for himself for a year or so. It is inspiring indeed to see how these young men are taking ahold of the management reins of these businesses and are making good at the job. They are to be congratulated.

* * *

A tourist stopped for a drink at a lonely cabin in the Tennessee mountains. He noticed four holes in the lower part of the door.

"I don't like to appear inquisitive," he remarked, "but what's the purpose of those holes in the door?"

"We got four cats," replied the mountaineer.

"Very well," said the tourist, "but wouldn't one hole be enough?"

"Stranger," replied the mountaineer, "when I say 'Scat,' I mean SCAT!"

* * *

"The man who wins," she said, "is the man who is prompt in embracing an opportunity."

"Well," he whispered, after he had slipped his arm around her, "how do I strike you as a winner?"

"Only fair," she answered. "This could have happened a month ago."

* * *

Among other men in the warm air heating and sheet metal industries who called me by phone for short chats were Robert O. Brannan, the Warm Air Furnace Fan Company; Mike Hinch, the Lennox Furnace Company; Roy Harrison of the Rudy Furnace Company. I certainly appreciate having men in the industry call me by phone whenever they are in the city and time does not permit their visiting the office in person.

* * *

Knows His Onions

A Scot applied for a position as patrolman on the London police force. Here is a question they put

up to him in Scotland Yard and his answer:

"Suppose, MacFarland, you saw a crowd congregated at a certain point on your beat, how would you disperse it, quickly and with the least trouble?"

"I would pass the hat."

* * *

A country preacher in Alabama, a dusky divine by the name of Williams, noticed a new face in his congregation, and when the service was ended he hurried down to greet the newcomer.

"Mr. Martin," he said, "this is the first time you've been to our church. I'm mighty glad to see you here."

Whereupon Mr. Martin replied: "Ah had to come, pahson. Ah needs strengthenin'. Ah's got me a job white-washin' a chicken coop an' buildin' a fence round a water melon patch!"

* * *

Actor: A person who makes \$50,000 a year some weeks.

Affinity: The woman who will cook your goose, but has no idea of cooking your dinner.

Cannibal: A person who is honest in his love for his fellow-men.

Cash Register: A Scotch piano.

Christianity: Having a pew in church.

Comic Strip: An eight-column diagram of an old joke.

Committee: A machine which takes a week to do what one good man can do in an hour.

Conference: A big business term for swapping stories in somebody's private office.

Contract: A collection of clauses signed by two honorable people who take each other for scoundrels.

* * *

I had a phone call on Wednesday of this week from my friend, Harry R. Jones, Indianapolis. Harry represents Milcor down through the state of Indiana and is a very prominent in the activities of the Indiana Sheet Metal Contractors' Association. He is the very active secretary of the Indiana Fur-Mets and always has something good for the annual banquet of the Indiana men.

Flexibility of Copper Roof Displayed on Washington Hotel, Newark, Del.

Unusual Shape of Roof Attracts Attention of Travelers—Erected by Daniel Stoll

By C. H. THOMAS

IN Newark, Delaware, the Washington Hotel has had a very interesting job of copper placed on its front, the work of a local sheet metal contractor, Daniel Stoll of Newark. The copper used was 16-ounce and the job required about 1,200 square feet to cover the wooden superstructure that was put in place to hold the copper front.

This job gives the hotel an appearance that is quite unusual, and also indicates that many smaller town artisans are also adequately prepared to handle this type of metal job as are his city brothers. The job will be a fine advertisement for Mr. Stoll for years to come.

Mr. Stoll is to be congratulated on this job, which is both interesting and practical; it catches the eye of nearly every passerby, and is almost better than a sign, because of its very unusualness and its uniqueness.

The enterprise and initiative displayed in the placing of this type of

copper work on this hotel speaks volumes for the type of mechanic that is found in this part of the state of Delaware. These men are experts in the handling of sheet metal work and are quick to place sheet metal where it will do the most good for both the builder and also their future trade.

Nat'l Air Filter Co. Takes Over Air Infiltration Dept. of Drying Systems

The National Air Filter Co., 5130 Ravenswood Avenue, Chicago, Illinois, has taken over in its entirety the air filtration department of Drying Systems, Inc., and will continue to operate it as an individual corporation, but as a division of Drying Systems, Inc.

The change was made necessary owing to the growth of the air filtration business during the past year. The personnel and the policy of the company will remain un-

changed. Phoenix constant-effect and National rotary air filters are the products now manufactured and distributed, and, in addition to these equipments, special air filters will be designed and installed to meet individual requirements.

John T. Barclay Goes With Charles Johnson Co., Inc., Peoria

John T. Barclay, who formerly represented the Tuttle & Bailey Manufacturing Company from the Chicago branch office, has severed his connection with that firm and has gone with the Charles Johnson Company, Inc., South Adams Street, Peoria, Illinois. Mr. Barclay is at the present time enjoying a brief sojourn in and around Los Angeles, California, before taking up his new duties. He will represent the Charles Johnson Company in the Illinois territory.



Flat Seam, 16-ounce Copper Roof that was Erected on the Washington Hotel, Newark, Delaware, by Daniel Stoll. Appearance is Such that It Will Attract Attention and Produce Favorable Comment for the Sheet Metal Industry

**Park City Cornice Works,
Bridgeport, Conn., Have
Effective Skylight Lifter**

The Park City Cornice Works, Bridgeport, Connecticut, have recently placed on the market an invention that was the "daughter of necessity."

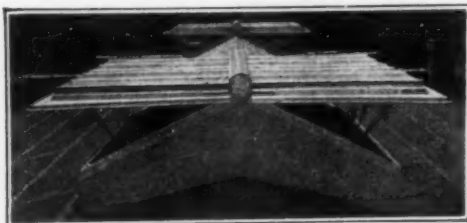
The company had installed in a factory a set of skylights, and in



The Lifter

doing so had made the promise that the lights could be raised or lowered at will. In actual practice, however, the device failed to fill the bill, and so the company proceeded to make one that would. The result was the Parco skylight opening device, which is patented and sold quite extensively at the present time.

This device in its simplest form raises one side or one section of the



Lifter Installed

skylight. With a slight variation in its construction, the device can be made to raise the entire skylight vertically off the curb, which permits the maximum amount of ventilation when needed. It offers a wide range of adaptability wherever gases and fumes make a quick change of air necessary.

The device will also raise hip skylights by slight additional apparatus and is adaptable to sheet metal hoods in place of skylights.

The Parco truss is an adaptation of the skylight lift and is especially effective in supporting wide skylights and lifting them to give a lot

of ventilation quickly. In garage work this is a valuable point.

To operate the device it is only necessary to pull the chain slightly. The lift is so made that the minimum amount of strength is necessary for operation. Full details can be had from the Park City Cornice Works, Bridgeport, Connecticut.

**Ohio Jobbers' and Salesmen's
Auxiliary Roster
Now Being Distributed**

The Jobbers' and Salesmen's Auxiliary to the Sheet Metal Contractors' Association of Ohio have recently issued their 1927-28 roster.

This roster contains the names of manufacturers and jobbers of iron, steel, tin, copper, brass, zinc, formed products and sheet metal supplies; manufacturers and jobbers of furnaces, fittings, registers and supplies; trade publications in the warm air heating and sheet metal contracting fields; paint, slate, machinery and miscellaneous.

This makes the roster a complete reference to those in the industry who are supporting the Ohio organizations.

In order to insure the roster being hung up in the office of the dealer, a calendar including the last six months of the year 1927 and the first six months of the year 1928 has been added to the bottom of the roster. If you have not already received your copy, write to Frank J. Ruehrwein, Secretary, 23 West 3rd Street, Cincinnati, Ohio. If you have received your copy, do not neglect to hang it up in a conspicuous place in your office.

**McVoy Sheet & Tin Plate
Co. Moves Chicago
Galvanizing Plant**

The McVoy Sheet & Tin Plate Company announce the removal of their main office and job galvanizing plant, which for over fifty years has been located on Austin Avenue, Chicago, June 20th, to their 36th Street plant where recent additions will give them a modern office and combine their two galvanizing

plants and warehouses at one point with a loading capacity of fourteen cars per day.

Eugene J. McVoy, President of the McVoy Sheet & Tin Plate Company, succeeded in 1900 to the business founded by his father in the spring of 1877 and for many years operated under the name of John McVoy & Co.

Originally the business consisted of manufacturing galvanized sheets (the first plant west of Cleveland) and the galvanizing of barbed wire. Isaac Elwood, John Gates, and John Lambert frankly acknowledged that in their early stages they owed a great deal of their success to the financial assistance received from "John McVoy the galvanizer."

In 1891, some years after the death of the founder of the business, John McVoy and Company in conjunction with others built one of the first open hearth steel furnaces and rolling mills in the West—Midland Steel Company, Muncie, Indiana,—which was sold in 1900, together with the sheet galvanizing plant of John McVoy & Co., to American Sheet Steel Company shortly absorbed by the United States Steel Corporation.

The Chicago plant, office, and warehouse was purchased from the estate by Eugene J. McVoy who added tin plate, black plate, blue annealed sheets, and other sheet metals to the line of merchandise carried. The new company continued to manufacture galvanized sheets and also run the job galvanizing department, and finally in 1908 built their present 36th Street plant, located at 1050 to 1058 W. 36th Street. This property is located in the central manufacturing district, served by the Chicago Junction Railway connecting with all railroads entering Chicago. Property is 110' x 298' with side tracks alongside all three buildings.

This consolidation of the general offices, warehouses, and galvanizing plants will enable McVoy Sheet & Tin Plate Company to give old and new customers alike added attention and even better service than has heretofore been possible.

Apollo Metal Co., La Salle, Illinois, Shows How to Attract Resort Business

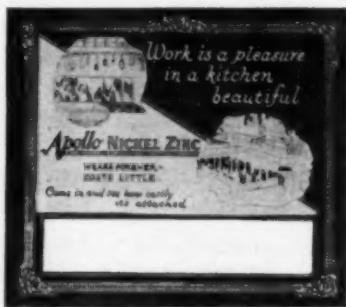
Attractive 4-colored slides for moving picture theater advertising are now being offered by the Apollo Metal Co. to the trade who wish to feature the numerous uses for Apollo-Nickel Zinc.



One of the Slides

A couple of samples are here reproduced. Users report excellent results from alternating these slides from week to week. The cost is practically negligible, and the fact that interest is concentrated on the one advertisement makes this type of advertising exceptionally profitable.

Any bona fide sheet metal man may obtain these slides for his use by writing the Apollo Metal Co., LaSalle, Ill., and giving the name of his jobber.



Another Slide

At this time of the year Apollo-Nickel Zinc can be used at summer resorts for covering table tops and sinks. Now is the time to go after this business. The Apollo Company will gladly work with the sheet metal man in building up a substantial business on Apollo-Nickel Zinc if the sheet metal man will outline the situation in his town.

Detroit Sheet Metal and Roofing Contractors Hold Final Meeting of Season

The final meeting of the 1926-27 season, held at the Book-Cadillac Hotel, Tuesday evening, June 14, was a howling success. A large attendance, a splendid meal and fine music started the affair with a bang.

Following the meal, community singing was led by Mr. Melvin of the Insulite Company.

The next part of the program was the drawing contest in charge of Al. Berschbach, Sr. The first prize, six golf balls, was won by H. N. Link, Steelcote Manufacturing Company. The second prize, which, by the way, was a liquid affair, was captured by Al himself.

Following this, President Busch called the meeting to order and introduced Mr. Marshall, special representative of the General Accident, Fire and Life Corporation. Mr. Marshall gave a very interesting talk on compensation insurance. "One particular danger," he said, "is the employment of minors. Persons under 18 years of age are not included in the act and employers are not protected by insurance in case of accidents to such minors." Mr. Marshall made it very clear throughout his remarks that his company is greatly interested in co-operating with the association in the solution of its insurance problems.

The next speaker introduced was Mr. Martin Ryan, a Detroit realtor. When not selling real estate, Mr. Ryan makes a specialty of telling stories. He kept his audience in laughter for fully 45 minutes.

Mr. A. F. Pudrith, a member of long standing, having just returned from a trip abroad, gave a very interesting description of his entire trip. He visited the principal cities of France, Germany, Holland, Belgium and England. He had many interesting and humorous experiences and the fellows enjoyed his descriptions of them, especially the theater in Paris.

President Busch gave a short talk in which he thanked the members for their loyal support. He introduced three new members, Arrow

Sheet Metal Works, Rettenmier Sheet Metal Works and Shultz Roofing Company, following which the meeting adjourned.

Youngstown, Ohio, Company to Stress Replacement Furnace Business

Just a line from Youngstown, Ohio, relative to the furnace business here.

Building is slow this year and competition naturally is keen, according to R. C. Read, Banner-Mahoning Furnace Co.

Contractors and individuals are demanding better installations. All of the larger installers as well as some of the small dealers here are advising the standard code. Our local council has appointed a Committee on Building that we expect will adopt the standard code almost in the original form.

One company is pushing the replace and old house work by canvassing house-to-house and we have closed a number of jobs at a good price. We find that it is necessary to keep a close check on the canvassers' work and to have a salesman call within a couple of days or the prospect is cold.

The Banner-Mahoning Furnace Company expects to install more furnaces in Youngstown in 1927 than we did in 1925 which was our biggest year.

We have learned that a real heating system can be sold at a good price when it is often hard to get bare cost out of the sale of a furnace.

F. J. Costello to Add Eastern Wisconsin to His Regular Territory

F. J. Costello, Manager Chicago Furnace Division of the Michigan Stove Company, has taken on the eastern half of Wisconsin in addition to his regular Chicago and suburban territory. This new arrangement will be in effect for the remainder of the present year and may be permanent. Mr. Costello's time will be so divided as to give ample time to Chicago and outside trade.

Credits and Accounts Important in All Business Conduct*

Records Necessary for Determining Sales, Purchases, Turnover, Selling Expense and Administrative Costs

By F. G. BRUNINGA

THE most essential elements in business are accounting and the granting of credits.

Let us make an analysis and prove that these are as essential as the product itself which you are selling. Of what is business composed? I should say economics, because it is the science of business. It has many classifications under its heading, such as capital, organization, which includes personnel, equipment, process of manufacture or installation, and distribution of product; competition; risk; and records.

Capital is that investment which we have made in a business with the aim of receiving interest or profit thereon through the science of manipulation of brains and materials.

Organization is a factor necessary in producing the profit on capital, for without the proper personnel, equipment, process of manufacture, or distribution of product, it is impossible in this day of competition to do business.

Competition is that which stimulates business so that the organization may function scientifically to earn the profit.

Risk is that which each of us take when we invest the capital which assists the organization to meet the competition.

Records are the most important factors necessary in business, as they record the capital which creates the organization, which meets the competition, and governs the risk.

You can readily see that records have to do with all the classifications of economics, and without them you cannot ascertain your sales, purchases, turnover, burden, selling expense, administrative costs, and profit, all of which are so vitally im-

portant in the proper management of your business.

Now that we see how necessary records are, we do not want any misunderstanding—it is just as much of a hazard to have so many records that the cost of keeping them becomes prohibitive.

Accounting Systems Reflect Business Transactions

Accounting systems are nothing more than true data of your daily transactions, arranged to give you sufficient information to enable you scientifically to conduct your business.

We are confronted daily with the so-called simplified systems of accounting that are sold at a small cost, and are supposedly designed to take care of any and all businesses. I have seen any number of these, but only a few that have been kept religiously, and with these the keeper seldom receives the information he desires.

Ready made accounting systems are just as inefficient as the smallest furnace installation used in a place which necessitates the largest furnace and many cold air ducts. It is impossible to fit the business to the system; the system must be made to fit the business and provide for expansion. This may be seen by comparing the accounting systems of two manufacturers of the same product, having about the same output. Their accounting systems are different, because their methods of operation and doing business are not the same.

The accounting system of today is designed to give proofs, so that there is little chance for error, which is in contrast to the old systems that did not give the proper information and gave opportunity for many costly errors. Errors in accounting can prove exceedingly costly, and may

lose business for you. If a customer's account is not properly charged, the inefficiency may cause him to believe that your installation may be as poor as your records.

Departmentize Is Only Solution to Dual Business

The proper procedure for businesses handling more than one commodity is to departmentize, so that costs may be ascertained on each commodity and an intelligent selling price fixed thereon, so that the adequate profit may be realized.

Many a man has been groping blindly at an ultimate goal of failure, because he does not know his costs. Statistics tell us that the majority of men in business are failures, and that the greatest number of these are caused by not having any records or the proper ones to fit their business. If all business was operated with accurate records and costs, competition would be more equalized.

Poor records and the failure of the principal of the firm to have a knowledge of records have caused more than one man to submit to thievery. We had a case of this about a year ago. This firm was doing a tremendous cash business, and they had a bookkeeper in whom they had explicit faith.

Their attorney one day told them that an examination by a public accountant might explain why their bank balance did not increase, as their inventory was no larger than it had been, and they knew that they had added sufficient mark-up to make a profit.

We were called in to make an analysis, which resulted in our obtaining a confession from the bookkeeper that he had taken money nearly every day, that he was in their employ, for his own use, as he knew that his employers knew noth-

*Address of F. G. Bruninga, of F. G. Bruninga & Company, Public Accountants, Peoria Life Building, Peoria, Illinois, delivered before the members of the Western Warm Air Furnace & Supply Association attending the convention in the Pere Marquette Hotel, Peoria, Illinois, June 1 and 2, 1927.

ing of records. This firm learned an expensive lesson.

We instructed them in the knowledge of accounting as far as their business was concerned, and with our installation of a proper accounting system they have been progressing without fear.

I remember several years ago we were called to figure the costs of production in a coal mine doing business in a community where they had to bid for the large concerns. It was necessary for them to know their cost if they wished to compete and to make a profit. After the analysis the owner studied the situation, and, finding that his costs were too high, found that by the installation of more modern machinery and some improvements in the shafts, he was able to decrease his costs, underbid his competitors, and still make a legitimate profit.

These are just a few of the things that the proper installation of accounting will do for the business man.

When a man knows what he is doing he can do it, but when he makes a blind leap he knows not where he will land.

Income Tax Requirements Make Bookkeeping Necessary

Federal income tax has gone far in forcing the business man to keep records, but even this has not affected the majority of them. Many men pay too much tax, while others do not pay sufficient.

A case that is recalled to my mind is that of a garage man whose attorney called me to examine his clients' records. The Government had made a large assessment for a three-year period. The garage owner was positive that he had not made that much money, although he could not prove it because he had not kept an accurate set of books. He had paid a tax for one of these years, but had not for the other two.

The examination showed that he did not owe a tax in any of the three years, and we were able to recover the entire assessment plus the amount he had already paid. If he had kept an accurate accounting system, that had been examined at

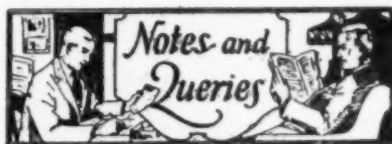
least yearly by an accountant, his cost would not have been nearly as large and his trouble and worry much less.

In the day of our grandfather it might have been possible to do business without complete records, but we must remember that he did not have the competition that we have today.

Credits are the hindrances in most businesses. Many of us are too anxious to sell the merchandise before we know whether we can collect for it or not. A great many concerns impair their capital to such an extent that they cannot meet their obligations. They do not realize that their profit and capital are in possession of their customers, and that without sufficient capital they cannot continue unless additional capital is secured. The more capital they invest, the more business they must do, to make the same per cent of profit. It is much better not to sell the merchandise than to lose the capital that you have invested.

Before allowing an installation to be made, a few inquiries will assist you in granting wise credit. New customers are the ones who need these, as the older ones can be governed by studying the account that he has previously had. First, ascertain how he pays his other obligations, then find what his earnings are and how steady he is at his job, if these are favorable, along with his character, it is sufficient that he be granted credit.

You can see that accounting and credits are closely linked and with a better knowledge of them you can save a great many worries in the struggle of business life.



How to Remove Resin Flux from Tin Roofing

From Brizee Metal Works, Twin Falls, Idaho.

Please advise us the best process to remove resin flux from tin roofing.

Ans.—Diluted hydrochloric acid.

Sweeping Compound Cans

From E. D. Bare Company, Walker, Iowa.

Please inform me where I can buy tin cans suitable for shipping and storing sweeping compound.

Ans.—American Can Company, 104 South Michigan avenue, Chicago, Illinois, and National Can Company, Baltimore, Maryland.

"Universal" Furnace

From Jno. F. Cartright, Bowling Green, Kentucky.

Please inform me who manufactures the "Universal" furnace.

Ans.—Cribben and Sexton Company, 680 North Sacramento Boulevard, Chicago, Illinois.

"Imperial" Boiler

From Stove Dealers Supply Company, 310 Chestnut Street, Milwaukee, Wisconsin.

Can you tell us who makes the No. 28-3 Imperial boiler?

Ans.—Burnham Boiler Corporation, Irvington, New York.

Roofing Slate

From Fenn Hardware Company, Delavan, Wisconsin.

Kindly advise me who makes roofing of slate.

Ans.—Vendor Slate Company, Incorporated, 627 Marquette Building, and Rising and Nelson Slate Company, 2554 West Harrison Street, both of Chicago.

"Little Giant" Lawn Mower

From Louis I. Drackert, Tipton, Missouri.

Can you tell me who makes the "Little Giant" lawn mower or where I can secure repairs for it?

Ans.—Blair Manufacturing Company, Springfield, Massachusetts.

Slaters' Tools

From Fenn Hardware Company, Delavan, Wisconsin.

Please advise me who makes slate roofing tools.

Ans.—Joseph T. Ryerson and Son, Incorporated, 2558 West 16th Street, Chicago, Illinois, and Peck, Stow and Wilcox Company, Southington, Connecticut.

Umbrella Covers

From Louis I. Drackert, Tipton, Missouri.

I should like to know who makes umbrella covers.

Ans.—Kreis and Hubbard, 320 South Franklin Street, and American Waterproof Products Company, 724 West Roosevelt Road, both of Chicago, Illinois.

Showing Symbols Employed in Welding Drafting Rooms

Further Details of Electric Arc Welding Explained

By O. W. KOTHE, Principal St. Louis Technical Institute

WELDERS must often work from plans. To aid in adopting some uniform standard, the Emergency Fleet Corporation adopted the chart illustrated in Fig. 53 to prevent different draftsmen in different offices from inventing a number of conflicting symbols.

After a practice has once gained popularity, it is exceedingly hard to substitute a standard form. So, while a demand for symbols was being set up, a chart was worked out for standardized symbols. Since then this chart has been published as a standard guide and industrial plants use it now very freely. The aim is to draw a small circle, or square, a triangle, semi-circle, cross, etc., above or below a joint, and that symbol will indicate the type of joint to be made. This is written on the plans. The welder must interpret it and put it in practice.

Thus at Fig. 54 we show numerous diagrams, all our plate has room for illustrating the type of weld the symbols indicates. This requires some memory work, and the reader should draw details and so know their application at sight. At the very top of the chart, the purpose of application is ship technology; but it can as well be railroad, or some other industrial activity. The next row of rectangles indicates the initials for the iron or metal specified. In a drafting office this procedure shortens the work considerably, since to write the word "wrought iron" a dozen or more times on a set of plans is laborious as well as offers greater congestion of space.

Next the grade of finish is specified, whether galvanized or unfinished. Other squares could be added if required. Then a row of squares can be built in for size of

materials used, although this is generally just marked on the plans. In a similar way we have the type of joint; the design of weld; the position of weld; kind of weld; type of weld; preparation for weld; electrodes used, their sizes, electrical current for the size of rod, and such other technical data can be added.

Hence welding has often been referred to as an engineering profession. But this term really applies to the higher technical value. It must not be construed that every welder is an engineer. The boiler and sheet iron workers' industry is a high engineering craft—still extremely few think enough of it to ever advance above what they learned as an apprentice. For those workers who are further interested in electric arc welding, they should purchase a book on Electric Welding by Ethan Vialli, published by the McGraw-Hill Book Co. of New York City. The Welding Encyclopedia is also a very good volume. In addition to this trade literature should be secured from manufacturers. In this way a person can secure much technical data that our space does not permit.

But to continue the general instruction from last issue, the General Electric Co.'s Arc Welding describes this about as official as can be, thus:

Equipment and Materials

In addition to the equipment and accessories previously described, special jobs render it desirable to have on hand other miscellaneous pieces of equipment.

Odd pieces of carbon block or of copper are of much assistance as dams in holding the molten metal in place. In cases where the weld must be smooth on one side, a piece of

copper or carbon is held against the weld and metal filled against it. Iron or steel can be used if care is taken not to weld to it.

In filling a hole, the bottom is often closed by holding a plate of carbon or copper against it until sufficient metal is filled in.

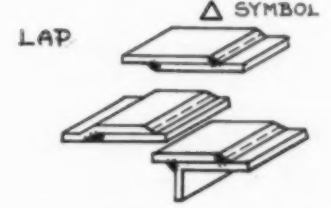
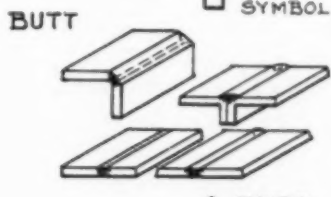
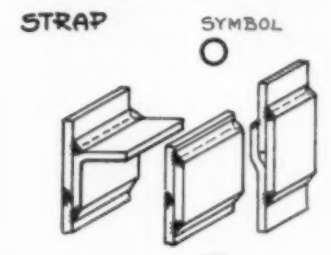
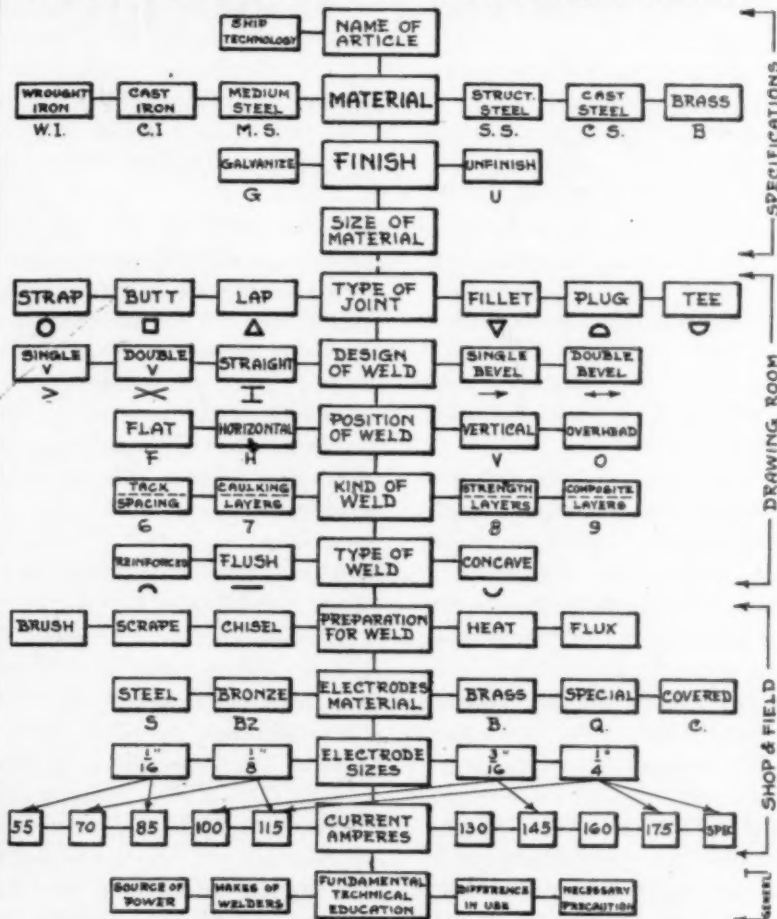
Care should be taken to flow the molten metal against the guide pieces and not to allow the arc to play directly on them. Otherwise the weld will probably be contaminated by this material, or else the guide piece may be welded solid and cannot be easily removed.

A steel wire scratch brush is used to remove light scale and rust, before commencing the weld, and also at intervals during the welding, usually when changing electrodes.

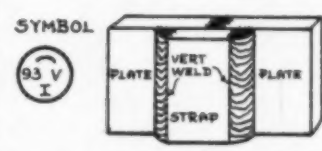
For small work the positive lead may be bolted to an iron plate forming the top of a work bench. The work may be set on this bench, the contact being sufficient to carry the current. In many cases a vise mounted on the table will be found desirable. If the work is too large for the table, it may be set beside the table and a bar laid across to it. This will provide sufficient current carrying capacity, provided scale and rust do not entirely prevent contact. The rails in a roundhouse or car shop, if bonded, are usually connected to the positive lead and any car on these tracks may be welded by running only the cable leading to the electrode, the return cable being unnecessary since the current will be carried back through the rails.

A convenient terminal for the positive cable consists of a copper hook of proper size to which the cable is bolted. The terminal may be laid on the work or hooked on a projecting part. It is seldom neces-

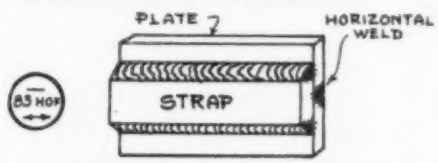
INSTRUCTION CHART WITH STANDARD SYMBOLS



COMBINATIONS OF SYMBOLS



STRAP WELD REINFORCED, COMPOSITE OF 3-LAYERS VERTICAL, STRAIGHT



STRAP WELD, FLUSH, STRENGTH OF 3-LAYERS, HORIZONTAL, FLAT AND OVERHEAD, DOUBLE BEVEL

DESIGN OF WELD

FIG. 53

KIND OF WELD

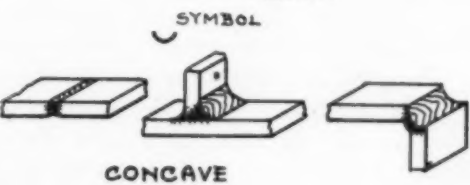
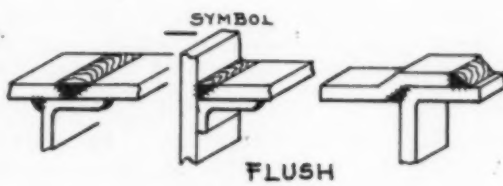
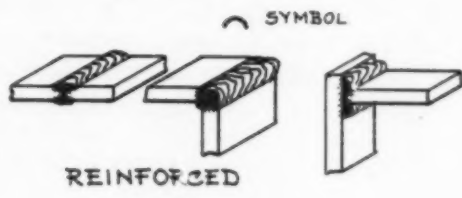
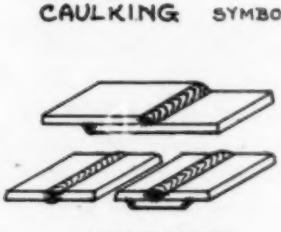
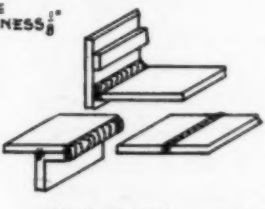
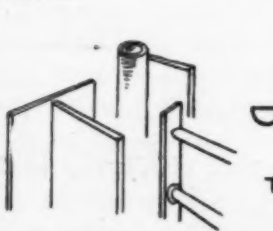
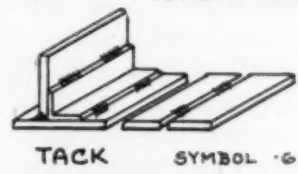
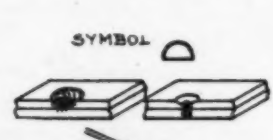
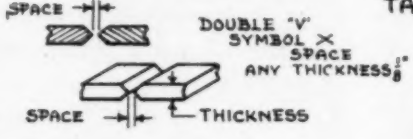
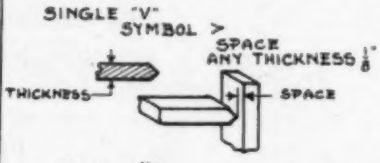


FIG. 54

sary to actually clamp the return lead to the work unless the metal is thickly covered with scale or dirt which acts as insulation, in which case it is easier to chip or brush off a clean place for the contact than to use a clamp.

If welding is to be done in a room where others are working, screens should be provided around the welding operator. They should be high enough to prevent the light striking a considerable portion of the ceiling since the flicker of this light would probably affect the other workmen. The effect, while probably not injurious, would be irritating. White walls and ceilings should be avoided in a welding room.

Firebrick and gas burners covered with sand or sheet asbestos are useful for preheating, especially for cast iron work. In many cases iron castings should be preheated either partly or entirely to a dull red heat and welded while at this temperature. A receptacle of water is desirable, in which the electrode holder can be cooled if it becomes too hot after continued use.

Some operators feel that gloves are necessary to protect the hands from the arc. In many cases, however, operators find gloves to be in the way, especially when working with the metallic electrode. If desired, however, any leather glove will give sufficient protection to the skin of the hands, which is much less sensitive than the skin on other parts of the body. Cloth gloves should not be used as they may be ignited by sparks and burn the operator's hands. The arms, neck and face should, however, be covered, since exposure of these parts will probably result in burns similar to sunburn, which, though painful, are not serious. A leather apron is often used to protect the clothes.

Flux

The welding equipments described in this bulletin are designed for use with bare metallic electrodes, except when carbon or graphite electrodes are specifically mentioned. If the work is kept clean by brushing at frequent intervals and care is taken in the operation of the arc, a good

weld can be made without flux, but if these attentions are lacking, flux will not make a good weld.

Preparation of Weld

Metal that is clean is much more likely to make a good, strong weld. Scale, rust, grease, soot, and foreign matter will contaminate the weld and such inclusions necessarily weaken it or else make it hard. Impurities may also make the metal porous and spongy due to liberation of gases. Pieces of foreign matter may prevent the molten metal filling all parts of the weld and cause cavities.

Various methods of cleaning are in use—such as pickling of small parts, washing with gasoline or lye, boiling with lye, sand-blasting, chiseling, scratch-brushing, etc., the method depending upon the local conditions.

Preparatory to welding locomotive tubes to the sheets, it is sometimes advantageous to send the locomotives out on a run to burn off the grease and then clean off the oxide and soot by sandblast. Another method is to heat the boiler to normal by steam pressure and then clean by sandblasting or scratch-brushing. Washing with lye will also remove the grease.

In welding heavy sections, where it is necessary to deposit several layers of metal, the surface of the preceding layer should always be cleaned before starting the next.

When sections of $\frac{1}{8}$ in. or less in thickness are to be joined, the edges need not be beveled, but they should be separated a small distance. Thicker sections should have the edges beveled to give a total angle of 60 deg. as well as separated by $\frac{1}{8}$ in. In some special cases angles as low as 40 deg. may be necessary and as high as 90 deg. may be used, but an average safe value is 60 deg. Still heavier sections may be beveled from both sides and the weld made from both sides. In the latter case a layer should be put on one side and then a layer on the other to prevent warping or excessive strains, or two operators may weld opposite sides at once.

For long seams the edges should

be $\frac{1}{8}$ in. apart at the end where the weld is started, and at the far end the space should be $\frac{1}{8}$ in. plus $1\frac{1}{2}$ per cent of the length. This takes care of the expansion of the metal in the sheet and also of the contraction of the metal in the weld as it cools.

The welding of complicated shapes such as flywheels and some castings may require preheating at certain points to produce initial expansion which will be overcome as the weld cools. In some cases the entire piece must be preheated and in some cases after welding the whole piece must be annealed. This is sometimes done by heating the piece uniformly, then covering it with sand, asbestos, etc., and allowing it to cool slowly.

In welding cracks in plates, forgings, or castings, the crack should be chiseled out to get a good bevel entirely through the plate, with $\frac{1}{8}$ to $\frac{3}{8}$ in. clear opening on the back or to the bottom of the crack in castings or forgings. In boiler work $\frac{1}{2}$ -in. holes are sometimes drilled well beyond the ends of the crack and the crack chiseled, beveled, and welded.

Welding with the Metallic Electrode

The arc should be kept short, not over $\frac{1}{8}$ in. in length.

The current should not be greater than indicated in the table for the electrode diameter. Excessive current causes burnt or porous metal to be deposited.

The arc should be kept constant in length to insure uniformity in the metal deposited.

In welding a seam the electrode should be moved in a zig-zag or circular path advancing along the seam.

Be sure the electrode is connected to the negative terminal. If the polarity is reversed, the arc will be more difficult to maintain and the deposited metal will not be good.

In starting the arc, the electrode should be just touched to the work or else scratched lightly over the surface and withdrawn immediately to the required distance. If the electrode is held too long in contact, it will weld to the work.

In welding be sure that the arc plays over the entire surface of the joint. The metal of the work is fused by the direct impact of the arc and if molten metal merely runs ahead of the arc, over the solid metal of the work, it will not result in a weld.

The metallic electrode used is generally from 14 to 18 in. long. It may be gripped in the holder, either at one end or in the middle as required by the skill of the operator or the nature of the work as the case may be.

The operation of welding overhead is the same as in normal welding. The difficulty lies largely in holding a short, steady arc in the cramped position usually experienced. If the arc length is kept constant, the metal will be successfully deposited, and practice is required to accomplish this. The appearance of an overhead weld is sometimes marred by projecting drops of metal, usually caused by a long arc, or by uneven thickness of the deposited metal, but this can be overcome by proper manipulation of the electrode. A rest for the arm will sometimes assist the operator to hold the electrode steady when in operation.

The Use of the Carbon or Graphite Electrode

The holder should ordinarily grip the electrode from 4 to 5 in. from the end. The electrode should for ordinary work be tapered to a blunt point at the working end to keep the arc from wandering over the end of the electrode. The point is usually made up by grinding on a wheel. As the electrode burns away with use, the holder is moved back along the electrode to keep the length of working carbon constant. The burning away of the electrode will tend to keep the taper approximately constant.

The arc is struck in the same manner as with the metallic electrode, but a longer arc should be used; from 1 to 1½ in. is the average. The arc should not be too short when welding or depositing carbon in the weld with the probability of a hard weld resulting. In cutting or melting off metal the arc

should be kept short, about ½ in. being an average length.

To cut (for which purpose the carbon or graphite electrode must be used) the arc is operated like a gas torch. It is held in one place long enough to fuse the metal and allow it to run off. Then the electrode is slowly advanced along the desired line, the molten metal dropping out below. For thick pieces, such as shafts, castings, etc., it is desirable to start at the top on one edge and work down, allowing the molten metal to run down through the cut. It is often necessary to follow the molten metal down with the arc to keep it melted until it runs off.

Width of Cut Depends

The width of the cut will depend on the thickness of the piece, the size of the electrode used and on the skill of the operator in keeping to a straight line. The cut will be slightly wider than the diameter of the electrode in order to allow the arc to be played on the bottom of the cut, and it will be wider for thick sections than for thin ones. The edges of the cut will not be smooth because of masses of molten metal not running away and also because the arc will tend to jump from one point to another.

To deposit metal with the carbon or graphite electrode, the arc is struck as above, but is not held in one place long enough to melt through. A pool of molten metal is established and a rod of metal is fed into the arc and melted down on the work. It should all be heated thoroughly to insure complete union before more metal is added to the weld.

Since heavier current can be used with the carbon or graphite electrode than with the metallic, faster work can be done in depositing metal. Figures are given in a preceding table.

For filling holes in castings, building up worn spots, etc., the carbon weld is desirable.

Because of the high temperature and large amounts of heat liberated when using the carbon electrode, the electrode holder is liable to be-

come very hot and under some conditions to melt away at the end. When the holder begins to get hot it should be plunged in a receptacle of water kept conveniently near the operator.

Cast Iron Welding

The welding of cast iron and repairs to all kinds of machinery offers a large field for the application of arc welding and in this field successful work is dependent upon the proper application of the process. Steam railway companies repair a very large number of cracked cylinder castings. Job repair shops successfully repair cracked automobile castings, farm machinery and factory machinery, as well as many other types.

Cast iron has a comparatively low tensile strength and no ductility, and accordingly is unable to withstand expansion and contraction strains of any magnitude. The avoiding of strains due to the expansion and contraction, particularly of complicated castings, is a problem that must be solved by the welder if good welds are to be made. Special electrodes are often used for this purpose and in cases where considerable strength is required steel studs are screwed into the castings in sufficient numbers to provide the necessary strength, without depending on the bond between the deposited metal and the cast iron. For such work the electrode is usually the type used for ordinary steel welding.

Each job involving the welding of cast iron is a problem in itself and a successful solution will depend very largely on the knowledge, experience and skill of the operator at work.

Other Metals

By experimenting, a number of operators have learned to weld copper to copper, copper to brass and steel, and bronze to bronze, as well as Monel metal, high-speed steel and stellite. The special uses are rather limited in their application and the methods vary, so it is recommended that each operator experiment along the lines suggested by his experience.

Modern Merchandising Problems and Their Relation to American Housewife

Selling an Industry to Public Must Precede Selling the Product

By J. F. DONOVAN, Ray D. Lillibridge, Inc.

ALMOST everybody has heard the story of the hard boiled prospect who, having listened to a salesman's eloquent discourse, turned to him suddenly and said, "Well, you have told me all about the product—now tell me what the d—n thing will do." You will all admit that today's housewife is interested in what a stove will do. But can it be said that you are putting the idea into practice?

Among the large number of appeals, "ease of doing the job" stands in the forefront. She is interested in "better dishes more easily prepared," and which you will find a job worthy of your steel if you will compete with the effective campaigns of the canned food manufacturer, whose products are quickly warmed, and with the restaurant and hotel, to which great numbers of people in small towns and large are daily and nightly turning to make their household tasks easier. A woman is interested in the saving of eye-strain, back-strain and foot-steps, in the elimination of constant watching of foods and in the nervous tension which goes with it.

After "ease of doing the job" I believe that "economy of preparation" is the next consideration. The woman is interested in the quick and economical use of left-overs, in the proper preparation of cheaper cuts by proper cooking methods. These are the avenues to her interest. Talk to her in these terms and you are speaking in a language she understands and upon which she may be expected to act.

Knowing Consumer Needs

Merchandizing the service idea to the woman presupposes a thorough understanding of consumer needs. In support of this statement may I cite what I have always regarded as one of the most noteworthy ex-

amples of consumer needs. My company had been engaged by the country's most prominent manufacturer of vacuum cleaners to make a study of the factors which most largely contributed to the sale of the product. The field men had been selling the product as an efficient machine with an exclusive function. It cleaned thoroughly, rapidly; it went deep into the nap of the carpet in a manner which no other machine could imitate. These and similar statements formed the highlights of the salesman's canvass.

The first stage of our study developed a question: Are these the things in which the woman is most concerned? We felt beyond question that they were not. And after some weeks of close living with the subject we discovered what it was that we had to do. It was carpets and rugs on the one hand, and dirt—plain dirt in its varied forms—on the other, to which we gave our principal attention.

And why? We found that the one thing in which the woman was interested above all else was the preservation of her rug or carpet—in the retention of its newness and life and color.

Then followed a search for information upon the subject of carpet composition and weaves that became amusing for the scarcity of available data on so common an article of household use. Failing there, we dug deeply into the importing, manufacturing and retailing channels of this and other countries.

Gradually we came to know the difference in materials, weaves, grades, qualities, and the usefulness of each. We made a study of sand, grit, lint, and the several other forms of dirt, those which are transported on the air and those which

are brought in by carriers, and what part each played in destroying carpets.

Finally we determined how each form of dirt could be most efficiently removed from certain weaves of carpets. *We analyzed the cleaning action of the broom, the carpet-sweeper and the ordinary vacuum cleaner, as opposed to the unique method of our product.* And upon the completion of this study, lasting over a year, we compiled our findings in the form of an interesting book entitled "Carpets and Rugs."

Fruits of Research Turned Over to the Salesmen

Written in elementary terms, the salesman acquired from it a carpet knowledge which enabled him to talk to his prospect with an authority and conviction which no previous salesman had known. He knew upon entering a woman's door whether the carpet on the floor was a Wilton or an Axminster—and he called it by name. He explained to her with the assurance born of knowledge what were the proper methods of cleaning and preserving her carpet and why his product of all others was the one safe and positive means of doing it.

And now to go back to the subject of stoves. Do you know, for example, and from first hand investigation of your user's problems, what are the unsatisfactory things, the difficulties of the cooking tasks as they pertain to the stove? If eighty per cent of all cooking is done on the stove top, then a large share of her cooking troubles and your greatest opportunity to aid her efforts must lie there. What study have you given to top stove cooking—not insofar as the functions of the stove are concerned, but what undiscovered benefits to the woman are hidden in top stove cooking?

For example, the French have made an art of sauteing and deep fat frying. The American housewife's knowledge of the art is confined to doughnuts, fritters and one or two other simple items. Yet this form of frying would give to her an economical means of making tasty use of left-overs.

In many sections of the country the broiling of meats is not the vogue—in many places unknown. It is because your customer does not understand the unquestionable value of broiling versus frying, or because broiling is troublesome and unsatisfactory?

Are modern stove broiling facilities conducive to satisfactory broiling without the trouble and nervous strain of careful watching and turning of the meats? What is the answer? Knowing it will enable you to increase the wider useability of the gas range or the stove; to give many women a mode of cooking they have never had before and to renew the interest of women who are today finding the method too troublesome.

Then there is the oven. We do not know the percentages, but we know from investigation that the home baking of breads, cakes and pies is dwindling alarmingly. We can conceive of an interesting count covering many cities of all sizes as to the preference between bakery or home-made breads.

We lean strongly to the belief that an overwhelming vote would be cast for the home-made article. *If the homemade fare is preferred, what is sending housewives by thousands to the bakeries? Is not the main factor, the difficulty of preparation?* Are you taking her conversion to bakery-made articles as an unalterable condition, or will you determine, as experts in cooking appliances, what, if anything, may be done in stove design or cookery education to bring her back to baking the home-made things which her family votes the best on earth?

Will you determine how baking can be made an easy undertaking, if not a pleasure, for her? For we

must remember that a product's use increases with its usefulness. The usefulness of the cook stove or the gas range, for that matter, is not as general in the city community as once it was. New and easier ways of obtaining foods have been the largest contributing element, perhaps. What will you do to make it easier for the woman of the house?

Placing Too Much Emphasis on Non-Essentials

This, in a large measure, may be responsible for what we have seen fit to term the "rainbow competition" which is prevalent in your industry. By "rainbow competition" we refer principally to the strong competition in the non-essentials of your several products: the finishes, enamels, design and accessories, many of which, although adding to convenience, do little to add to speed, to efficiency or to the art of cooking.

One well-known gas company official has said that there have been very few contributions to the gas range in utility or service-giving character within recent years. By which he means that there has been little added to the gas range which has been a contribution to the art of cookery.

If you are inclined to quarrel with his opinion, enumerate to yourselves those additions which you think may have been worthy contributions, then justify them by what they have actually done to increase cookery speed or efficiency or added to the art.

Your men have been excellent designers and builders in your craft, but it is not to your factory men that you may turn for an understanding of consumer needs; it is a merchandizing opportunity for your sales department.

Selling the Style Vogue

The average life of a gas range has been generally accepted as being ten years—ten years in which to wear out. We wait until the range has breathed its last, so to speak, before we may expect the housewife to take us seriously in our proposals for a new stove. We realize, of course, that many ranges are regu-

larly being replaced that are no more than two or three or four years of age, but, generally speaking, the range turnover of the industry is regarded in ten year periods.

Have you thought of the possibilities of bringing your prospect to a realization that there is such a thing as up-to-dateness in ranges as in furniture, automobiles, carpets, kitchen cabinets, curtains, kitchen floor coverings, et cetera.

She is accustomed to the changing of styles with periods of time in these things. Why should stoves be an outstanding exception? Vogues, popular crazes and styles are expressions of public taste generally induced by exterior forces. In each case some shrewd mind with a strong merchandising sense is responsible for them.

Merely because the kitchen is the woman's workshop is no justifiable reason for thinking that she is less mentally receptive to up-to-dateness, smartness and newness in her stoves than she is in her kitchen cabinet. But the urge for newness and up-to-dateness must come from within—from you.

We contend that the woman will be hardly less susceptible to style changes in stoves and ranges than in any other furniture or equipment in which beauty and design are inherent parts of its saleableness. Style changes have been one of the most effective urges to popular imagination and desire in all merchandising. We present it to you as a group merchandising activity, as all style urges are and must be.

Selling Your Industry to the Public

The opportunity to sell your industry to the public looms large before your association. When I was a boy I remember that our one means of illumination was gas light. How electricity came into being as a means of illumination I never really knew. The transformation was gradual and, I suppose, inevitable—an old idea giving way before a new and better one. But whether or not the gas industry knew at the time that the march of electric illumination was irresistible, we are

told that the industry accepted electric light passively and with no counter-attack worthy of the name.

Although your membership is made up of manufacturers of gas, oil, coal and wood stoves, let us take the gas range as an example of what may be done to merchandise its advantages. The principles are fundamental and may be similarly applied to oil and coal stoves.

Now, as an association, what are you doing in a merchandising or selling way to protect your field from the inroads of your immediate competitors? Electricity shows an unmistakable encroachment upon the field of gas cookery—not large, but definite. Will your industry as a body continue to accept it in an apathetic manner? We argue for no open opposition with a brother utility, but we do urge the merchandising of the peculiar advantages of your product. In doing so you need not disparage or deal in odious comparisons. You may couch your selling language in "positives," so to speak, in support of which we shall name a few of them.

We may truthfully and safely refer to gas as:

1. The fastest and most immediate fuel.
2. The least expensive.
3. The most certain.

All other forms of fuel are less certain in delivery and supply than gas.

4. A clean cooking method.
5. Equal to any inconvenience.
6. A method every woman understands.
7. The preferred methods of chefs.

We may name many famous chefs who would cook by no other method.

You are all aware that selling an industry to its public is a proven idea. We have but to remind you of the excellent work of the paint manufacturers in their "Save the Surface" campaign, of the florists who have so successfully "said it with flowers," of the face brick manufacturers, the Copper and Brass Research Association, the Sheet Steel Trade Extension Com-

mittee, and others who have by concerted effort put their industries across to their public. No less an opportunity awaits you if you would sell the service idea to your public.

Standardization and Simplification

You are aware, of course, that through the Bureau of Standards at Washington many industries are bringing about great savings to their membership through the standardization of style, design and models and through the general simplification of lines and numbers. No one or two members of an association may bring about savings through these processes alone and unaided. It must be concerted effort on the part of a group, each contributing his portion to the cause.

A move of this character should be initiated by your sales department. It comes to them as a merchandising opportunity in the form of lessening the false competition which exists in styles and designs at high manufacturing expense in so many industries today.

One of the most capable merchandizers in your industry, an Ohioan whose name and company are known throughout your body, has very pertinently stated, in substance, that it is not the internal competition among a membership that is most to be feared.

Competition of this sort, we feel sure he would agree, is the life of your and every other industry.

We are inclined to believe that he would support our contention that before you may successfully combat competition from without you must get rid of your burden which comes from the competition of non-essentials from within.

Sales Specialization

It is a self evident truth that we are living in an age of specialization—in science, in art, in production and in merchandising. To be a specialty a commodity must have isolated and distinctive usefulness or appeal. On today's selling stage the commonest staples are being dressed in the clothes of specialty appeal.

The cigarettes you smoke are toasted; the paint on your house is

sun-proofed by special processes; the oranges you eat are sun-kist and nurtured by the latest development in agricultural science.

So if you are to take your stove or range from the ranks of staples you must be prepared to give it distinctive usefulness or appeal, which may largely come through exclusive features of design. You should be prepared to take several steps which, as manufacturers of staples, you may now be unacquainted with. Prominently among these we may name:

1. Give to your stove exclusive appeal.
2. Carry the sale of your product direct to your consumer through your dealer and by specially trained salesmen.
3. Establish dealer understanding of specialization and its benefits.
4. School the dealer salesmen in your product knowledge.
5. Train dealer men in the knack of specialty selling as applied to your product.
6. Devise a course of instruction and training for your own and your dealer men.
7. Establish and maintain a resale price which will be profitable to your dealer.

When you have accomplished these important steps you have made a true beginning to achieve what we term "sales control." The nearer to your customer you are the greater will be your control over your sales curve. The two high peaks of spring and fall sales, with their contrasting valleys in summer and winter, may be brought nearer to a common level by specialized effort on your own part. The bugaboo of custom or habit that the stove business is a seasonable, that winter and summer must always remain orphan selling seasons, will disappear, we feel, in direct proportion to the sincerity and vigor of your effort. And it is elementary, of course, that with the evening of your sales curve will come the flattening of your production curve—the goal of every manufacturing executive.

Retail Hardware Doings

Iowa

C. H. Johnston of Gilman has purchased the hardware stock of H. J. Failor.

The hardware store of Guy M. Briggs was purchased by O. H. Saylor, Red Oak.

Two Brands with but a Single Thought—

“TAYLOR QUALITY”

For those who want the best roofing tin that can be had, we recommend our HAND MADE

TARGET AND ARROW

For those who want the best machine made plate that can be made, we offer our

TAYLOR'S EXTRA COATED 40 lb. Copper Bearing O. H.

Years of experience have taught Architects and Builders to accept TAYLOR QUALITY on sight. This means sales for roofers who use roofing tin made by

N. & G. TAYLOR COMPANY

Broad and Arch Streets
PHILADELPHIA

Headquarters for Good Roofing Tin Since 1810



Foot Squaring Shears—Silver City Pattern,
made in all practical sizes, capacity
No. 18 gauge iron and lighter.

WORTH WHILE TOOLS AND MACHINES

FOR over a century the PEXTO organization has striven to give the mechanic the most value for his money.

We receive many testimonials from users, telling us of the long, satisfactory service given by PEXTO Machines and Tools.

Write for Catalog No. 25A



Machines and Tools for the Sheet Metal Worker - Production Machinery for the Manufacturer of Sheet Metal Products - Power Presses - Dies - Power Shearing Machines.

THE PECK, STOW & WILCOX CO.
SOUTHINGTON, CONN., U. S. A.

Summer Quietude Grips Iron and Steel Market—Quickening Not Expected Until August

Third Quarter Demand Is Light in Pig Iron—Nonferrous Metal Prices Down

THE midweek steel trade reviews were rather gloomy. Production of the United States Steel corporation is placed at 74 per cent of capacity, a decline of about 4 per cent in the last week and about 15 per cent since the end of May.

Independents are operating around 68 per cent, compared with 70 per cent in the two preceding weeks.

"Steel business is at a slow pace and no quickening is expected before August," the *Iron Age* says. "Last year at this time the outlook began to brighten and prices to strengthen, although demand did not require expansion in production for some weeks.

"Reduction in output this week has brought the industry some 10 per cent under the operating position it held a year ago.

"In general, steel consumers have enough on order to cover them into the next quarter and fresh buying, with no broadening activity discernible in major consuming industries, will accordingly be light for some time."

Pig Iron

On a basis of recent transactions in No. 2 foundry and malleable pig iron the market has definitely reached lower levels at Pittsburgh.

After several weeks of quietness the market is featured by a few comparatively large purchases, including 2000 tons of malleable at \$18, f.o.b. eastern Pennsylvania steelworks furnace, having the same freight rate to Pittsburgh as valley stacks; also 1000 tons of No. 3 foundry iron at \$17.50, valley.

Another firm purchased 20,000 tons for its various plants. Several other purchases of foundry iron are noted, 250 tons to 800 tons, at \$18, base, valley. One hundred-ton sales

of malleable brought the same figure.

A few small lot sales of bessemer iron, including one for 350 tons, brought \$19, valley. Basic is quoted nominally at \$18, valley. No inquiries or sales are noted.

At Chicago inquiry for third quarter pig iron is coming out in slightly more volume and sales for that period are gaining momentum slowly.

An inquiry for 500 tons of foundry iron and about 500 tons of malleable for a Milwaukee melter is active.

At Birmingham third quarter orders for foundry pig iron call for small lots, sufficient for the time being to warrant steady production. Surplus stock of iron on yards is down to the minimum.

Quotations are firm at \$18, base, Birmingham.

Copper

The price on copper fell about 1/4-cent from the level of the early part of the month and at 12.50c, Connecticut, was the same as last February's low point. However, buying did not develop so quickly this time as then, as the action of the market in the past month or two has caused the trade to revise its opinion of the underlying strength.

On Monday some buying was done at this price after a little reported shading, while several producers still refused to accept bids.

Zinc

Zinc buying has been light but on account of the difficulty that smelters have had to get much ore at \$40 a ton or less, the prime western market has held close to 6.25c, East St. Louis.

However, in the past day or two there has been a little shading. For-

ward deliveries have commanded a few points more than prompt metal.

Tin

Consumers did some tin buying several days ago, mostly June, July and August arrivals, but when the price began to show more firmness they withdrew.

Professional trading has been moderate, after big business a short while ago.

On the other hand the supplies have remained so tight that the premium of June over July increased to more than 2 cents.

It is thought by some factors in the trade that the market has discounted the falling off in business.

Large shipments are on the way from the Orient and so the tight position of nearby probably will be relieved before long.

Lead

Buying of lead has been light the past week after good business early in the month.


However, buying did not make supplies especially tight, and so the higher prices in the spread disappeared.

Solder

Chicago warehouse prices on solder are as follows: Warranted 50-50, \$41.50; commercial 45-55, \$38.50; plumbers', \$35.50; all per 100 pounds.

Old Metals

Wholesale quotations in the Chicago district, which should be considered as nominal, are as follows: Old steel axles, \$16.50 to \$17.00; old iron axles, \$20.00 to \$20.50; steel springs, \$14.25 to \$14.75; No. 1 wrought iron, \$11.00 to \$11.50; No. 1 cast, \$14.00 to \$14.50, all per net tons. Prices for non-ferrous metals are quoted as follows, per pound: Light copper, 9 cents; zinc, 3 1/2 cents; case aluminum, 13 3/4 cents.

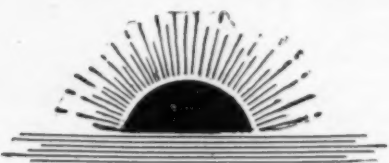


I N L A N D

At the Service of Steel Users

INLAND STEEL COMPANY
 38 South Dearborn Street, Chicago
 Works: Indiana Harbor, Indiana; Milwaukee, Wisconsin
 Chicago Heights, Illinois
 Branch Offices and Representatives
 ST. PAUL • ST. LOUIS • SALT LAKE CITY • MILWAUKEE
 KANSAS CITY • NEW ORLEANS • EL PASO

OUR SLOGAN
 "Everything Used in Sheet Metal Work"
 OUR HOBBY
 "QUALITY AND SERVICE"




In the Dawn of New Materials
 Do not sleep, be up and doing,
 Step ahead of all the rest,
 Use the latest and the best.

"OSBORN'S LEAD COTE"
 COPPER BEARING STEEL SHEETS

LEAD COATED COPPER . . SHEETS
 ALUMINUM . . SHEETS
 NICKEL PLATED ZINC . . SHEETS
 AND "MONEL METAL" . . SHEETS

ARE UP-TO-DATE ADDITIONS
 TO OUR LINE

THE J. M. & L. A. OSBORN COMPANY
 1541-51 East 38th Street
 CLEVELAND, OHIO
 BUFFALO WAREHOUSE: 64-68 RAPIN ST.



Round Corrugated

Plain Round

NEVER MADE WITHOUT THIS

TRADE **F. Dieckmann** MARK


Quality and Service Made 'em Famous

Made of one piece of heavy gauge material, in all styles and angles from 10 to 90 degrees, of 24, 26, 28 ga. ternes, then galvanized after formation.

DIECKMANN
Elbows and Shoes
 are the standard of the market
 and always give satisfaction

Send for new catalogue 26 showing complete line

The Ferdinand Dieckmann Co.
 P. O. Station B, Cincinnati, O.



Square Corrugated Style A

Square Corrugated Style B

Not made lighter than 28 ga. or 16 oz. copper

Chicago Warehouse Metal and Furnace Supply Prices

AMERICAN ARTISAN AND HARDWARE RECORD is the only publication containing Western Hardware and Metal prices corrected weekly.

METALS

PIG IRON

Chicago Fdy., No. 2.....	\$20 00
Southern Fdy., No. 2.....	24 01
Lake Superior Charcoal.....	27 04
Malleable	20 00

FIRST QUALITY BRIGHT TIN PLATES

IC 20x28 112 sheets...	\$25 10
IX 20x28.....	29 60
IXX 20x28 56 sheets.....	16 20
IXXX 20x28.....	17 55
IXXXX 20x28.....	18 95

TERNE PLATES

	Per Box
IC 20x28, 40-lb. 112 sheets	\$26 00
IX 20x28, 40-lb. 112 sheets	28 50
IC 20x28, 25-lb. 112 sheets	21 75
IX 20x28, 25-lb. 112 sheets	24 35
IC 20x28, 20-lb. 112 sheets	20 00
IV 20x28, 20-lb. 112 sheets	22 50
IC 20x28, 15-lb. 112 sheets	18 50

"ARMCO" INGOT IRON PLATES

No. 8 ga. up to and including	
1/2 in.—100 lbs.....	\$4 55

COKE PLATES

Cokes, 80 lbs., base, 20x28.	\$13 60
Cokes, 90 lbs., base, 20x28.	13 80
Cokes, 100 lbs., base, 20x28.	14 00
Cokes, 107 lbs., base, IC	
20x28.....	14 20
Cokes, 135 lbs., base IX	
20x28.....	16 40
Cokes, 155 lbs., base, 56	
sheets.....	9 20
Cokes 175 lbs., base, 56	
sheets.....	10 05
Cokes, 195 lbs., base, 56	
sheets.....	10 90

BLUE ANNEALED SHEETS

Base 10 ga.....per 100 lbs.	\$3 50
"Armco" 10 ga.....per 100 lbs.	4 00

ONE PASS COLD ROLLED BLACK

No. 18-20.....per 100 lbs.	\$3 75
No. 22.....per 100 lbs.	3 90
No. 24.....per 100 lbs.	3 95
No. 26.....per 100 lbs.	4 05
No. 27.....per 100 lbs.	4 10
No. 28.....per 100 lbs.	4 20
No. 29.....per 100 lbs.	4 35
No. 30.....per 100 lbs.	4 45

"ARMCO" GALVANIZED

"Armco" 24.....per 100 lbs.	\$6 15
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GALVANIZED

No. 16.....per 100 lbs.	\$4 30
No. 18.....per 100 lbs.	4 45
No. 20.....per 100 lbs.	4 60
No. 22.....per 100 lbs.	4 65
No. 24.....per 100 lbs.	4 80
No. 26.....per 100 lbs.	5 05
No. 27.....per 100 lbs.	5 15
No. 28.....per 100 lbs.	5 30
No. 30.....per 100 lbs.	5 70

BAR SOLDER

Warranted	
50-50.....per 100 lbs.	\$4 50

Commercial	
45-55.....per 100 lbs.	38 50
Plumbers.....per 100 lbs.	35 50

ZINC

In Slabs	\$ 8 50
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SHEET ZINC

Cash Lots (600 lbs.).....	\$11 75
Sheet Lots	12 75

BRASS

Sheets, Chicago base.....	17 1/2 c
Mill Base	17 1/2 c
Tubing, brazed base.....	26 1/2 c
Wire, base	18 c
Rods, base	15 1/2 c

COPPER

Sheets, Chicago base	21 1/2 c
Mill Base	20 1/2 c
Tubing, seamless base.....	24 1/2 c
Wire, No. 9, B & S Ga.....	17 1/2 c
Wire, No. 10, B & S Ga.....	17 1/2 c
Wire, No. 11, B & S Ga.....	18 1/2 c
Wire, No. 8, B & S Ga. and heavier	17 c

LEAD

American Pig	\$ 7 15
Bar	8 15

Sheet

Full Coils	per 100 lbs. 14 00
Cut Coils	per 100 lbs. 14 25

TIN

Pig Tin	per 100 lbs. \$75 00
Bar Tin	per 100 lbs. 76 00

HARDWARE, SHEET METAL SUPPLIES, WARM AIR FURNACE FITTINGS AND ACCESSORIES.

ASBESTOS

Paper up to 1/16.....	6c per lb.
Roll board	6 1/2 c per lb.
Mill board 3/32 to 1/2.....	6c per lb.
Corrugated Paper (250 sq. ft. to roll).....	\$6 00 per roll

BRUSHES

Hot Air Pipe Cleaning	
Bristle, with handle, each	\$0 85
Flue Cleaning	
Steel only, each.....	1 25

BURRS

Copper Burrs only.....	40-5%
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CEMENT, FURNACE

American Seal, 5-lb. cans, net	\$ 40
American Seal, 10-lb. cans, net	80
American Seal, 25-lb. cans, net	2 00
Pecora	per 100 lbs. 7 51

CHIMNEY TOPS

Adams' Revolving	Wt. Doz.	Prize Doz.
4 in.....	21 lbs.	\$11 00
6 in.....	24 lbs.	11 50
7 in.....	30 lbs.	12 50
8 in.....	33 lbs.	15 00
9 in.....	51 lbs.	16 50
10 in.....	56 lbs.	18 00
12 in.....	66 lbs.	22 00
14 in.....	110 lbs.	36 00

CLINKER TONGS

Front Rank, each.....	\$0 75
Per doz.....	8 40

CLIPS

Damper	
Acme, with all tail pieces,	
per doz.....	\$1 25
Non Rivet tail pieces,	
per doz.....	25

COPPERS—Soldering Pointed Roofing

3 lb. and heavier.....	per lb. 40c
2 1/2 lb.	per lb. 45c
2 lb.	per lb. 48c
1 1/2 lb.	per lb. 55c
1 lb.	per lb. 60c

CORNICE BRAKES

Chicago Steel Bending	
Nos. 1 to 6B.....	Net

CUT-OFFS

Gal., plain, round or cor. rd.	
26 gauge	30%
28 gauge	35%

DAMPERS

"Yankee" Hot Air	
7 inch, each 20c, doz.....	\$1 75
8 inch, each 25c, doz.....	2 40
9 inch, each 30c, doz.....	2 75
10 inch, each 32c, doz.....	3 00

Smoke Pipe

7 inch, each.....	\$0 35
8 inch, each.....	40
9 inch, each.....	50
10 inch, each.....	60
12 inch, each.....	90

Reversible Check

8 inch, each.....	\$ 56
9 inch, each.....	70

Diamond Smoke Pipe

7 inch, doz.....	\$ 5 00
8 inch, doz.....	8 00
9 inch, doz.....	12 00
10 inch, doz.....	15 00

Adams' Sheet Metal

7 inch, doz.....	\$ 1 60
8 inch, doz.....	2 20
9 inch, doz.....	2 60
10 inch, doz.....	2 80

DIGGERS

Post Hole	
Iwan's Split Handle (Eureka)	
4-ft. Handle...per doz.	\$14 00
7-ft. Handle...per doz.	38 00
Iwan's Hercules pattern, per doz.	14 90

EAVES TROUGH

Galv. Crimpedge, crated 75 & 5%	
Zinc, "Barnes"	60%

ELBOWS

Conductor Pipe	
Galv., plain or corrugated, round flat Crimp.	
28 Gauge	60%
26 Gauge	45%
24 Gauge	15%

Galv. & Terne Steel

Plain Rd. and Rd. Corr.:	
28 Ga.	60%
26 Ga.	45%
24 Ga.	15%

Square Corrugated

No. 28 Gauge.....	50%
26 Gauge	35%

Portico Elbows

Standard Gauge Conductor Pipe, plain or corrugated.	
Not nested	70 & 5%
Nested solid	70 & 5%

Sq. Corr., A. & B. & Octagon:

28 Ga.	50%
26 Ga.	35%

Portico

1", 1 1/4", 1 1/2".....	45%
-------------------------	-----

Copper

16 oz., all designs.....	45%
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Zinc—

All styles	60%
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ELBOWS—Stove Pipe

1-piece Corrugated, Uniform Blue	
"Milcor" No. 28 Gauge. Doz.	\$1 25
5-inch	1 25
6-inch	1 35
7-inch	1 75

Special Corrugated

6-inch	\$1 00
7-inch	1 60

Adjustable—Uniform Blue

"Milcor" No. 28 Gauge. Uniform Blue.	
5-inch	\$1 75
6-inch	1 85
7-inch	2 15

WOOD FACES—50% off list.

FENCE

726-6-12 1/2 (100 rods).....	\$28 68
1948-6-14 1/2 (100 rods).....	43 62

FILES AND RASPS

Heller's (American)	50-10%
American	60-10%
Arcade	50%
Black Diamond	50%
Eagle	50%
Great Western	50%
Kearney & Foot.....	50%
McClellan	50%
Nicholson	50%
Simonds	50%

FIRE POTS

Clayton & Lambert's	
East of west boundary line of Province of Manitoba, Canada, No. Dakota, So. Dakota, Nebraska, Kansas, Oklahoma, Amarillo, San Angelo and Laredo, Texas	52%
West of above boundary.....	48%

Geo. W. Diener Mfg. Co.

No. 02 Gasolene Torch, 1 qt.	\$ 5 55
No. 0250, Kerosene, or Gasolene Torch, 1 qt.....	7 50
No. 10 Tinner's Furn. Square tank, 1 gal.....	12 60
No. 15 Tinner's Furn. Round tank, 1 gal.....	12 00
No. 21 Gas Soldering Furnace	3 60
No. 110 Automatic Gas Soldering Furnace	10 50

Double Blast Mfg. Co.

Gasolene, Nos. 25 and 36.....	60%
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Quick Meal Store Co.

Vesuvius, F. O. B. St. Louis	30%
(Extra Dist. for large quantities)	

GALVANIZED WARE

Falls (Galv. after made), 10-qt.	\$2 12
Tubs (Galv. after made).	
No. 1	6 00
No. 2	6 85

GLASS

Single Strength, A, 25-in. brackets	87%
Single Strength, A, 34 to 40-in. bracket	86%
Single Strength, A, all other brackets	86%
Double Strength, A, all sizes.....	86%

HANGERS

Conductor Pipe	
Milcor Perfection Wire.....	25%

Eaves Trough

Milcor Eclipse Wire	15%
Milcor Triplex Wire	10%
Milcor Milwaukee Extension	10%
Milcor Steel (galv. after forming) List.....plus	12 1/2%
Milcor Selflock E. T. Wire, List	plus 50%

HOOKS

Box	
V. & B. No. 1, each.....	\$0 26

Conductor

"Direct Drive" Wrought Iron for wood or brick.....	15%
--	-----

Hay

V. & B. No. 1, each.....	\$0 26
--------------------------	--------

HUMIDIFIERS

"Front-Rank," Automatic	
In single lots	50%
In lots of 10 or more.....	50-5%
In lots of 25 or more.....	50-10%
Vapor pans, etc., each.....	50%

LIFTERS

Stove Cover	
Coppered	per gro. \$6 00
Alaska	per gro. 4 75

MALLETS

Tinners	
Hickory	per doz. \$2 25

MITRES

Galvanized steel mitres,	
28 Ga.	70
26 Ga.	60-20

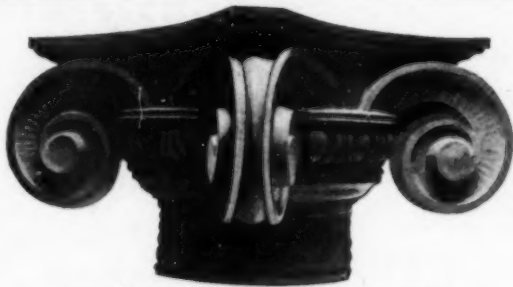
NAILS

Cut Steel	\$4 25
Cut Iron	4 35

Wire

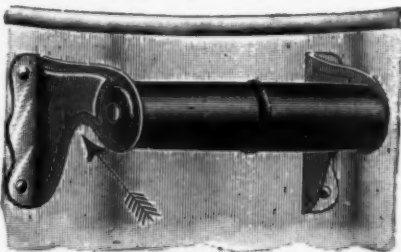
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Cement Coated	2 95

(Continued on Page 188)



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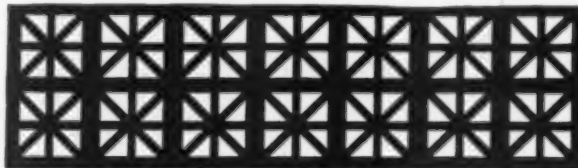
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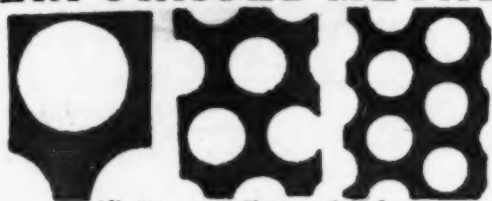
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NETTING, POULTRY		ROOFING	
Galvanized before weaving	67½-5%	Best grade, slate surf. prepared	\$ 2 30
Galvanized after weaving	52½-5%	Best talc surfaced	2 65
		Medium talc surfaced	2 00
		Light talc surfaced	1 20
		Red Rosin Sheeting, per ton	57 00
PASTE		SCREWS	
Asbestos Dry Paste:		Sheet Metal	
200-lb. barrel	\$16 00	7, ½x¼, per gross	\$0 52
100-lb. barrel	8 75	No. 10, ¾x1½, per gross	68
35-lb. pail	3 50	No. 14, ¾x¼, per gross	89
10-lb. bag	1 10		
5-lb. bag	60		
2½-lb. cartons	35		
PIPE		SHEARS, TINNERS' & MACHINISTS'	
Conductor		Viking	\$22 00
Cor. Rd., Plain Rd. or Sq.		Lennox Throatless	
Galvanized		No. 18	35%
Crated and nested (all gauges)	75-2½%	Shear blades	10%
Crated and not nested (all gauges)	70-15%	(f. o. b. Marshalltown, Iowa.)	
Furnace Pipe		SHIELDS, REGISTER	
Double Wall Pipe and Fittings	50%	No. 1 "Gem" floor	\$12 00 doz.
Single Wall Pipe, Round	50%	No. 2 "Gem" wall	6 00 doz.
Galvanized Pipe	50%	SHOES	
Galvanized and Tin Fittings	50%	Galv. 28 Gauge, Plain or corrugated round flat crimp	60%
		26 gauge round flat crimp	45%
		24 gauge round flat crimp	15%
Lead		SNIPS, TINNERS'	
Per 100 lbs.	\$12 50	Clover Leaf	40 & 10%
		National	40 & 10%
		Star	50%
		Milcor	Net
Stove Pipe		SQUARES	
"Milcor" "Titelock" Uniform Blue Stove		Steel and Iron	Net
28 gauge, 5 inch U. C. nested	11 50	(Add for bluing, \$3 per doz. net.)	
28 gauge, 6 inch U. C. nested	12 25	Mitre	Net
28 gauge, 7 inch U. C. nested	14 25	Try	Net
30 gauge, 5 inch U. C. nested	10 50	Try and Bevel	Net
30 gauge, 6 inch U. C. nested	11 25	Try and Mitre	Net
30 gauge, 7 inch U. C. nested	13 25	Fox's	per doz. \$6 00
		Winterbottom's	10%
T-Joint Made up		STOPPERS, FLUE	
6-inch, 28 ga. per doz.	\$ 5 00	Common	per doz. \$1 10
		Gem, No. 1	per doz. 1 10
		Gem, flat, No. 3	per doz. 1 00
All Zinc		VENTILATORS	
No. 11, all styles	60%	Standard	30 to 40%
POKERS, STOVE		WIRE	
Wrt Steel, str't or bent, Nickel Plated, coil handles, per doz.	\$0 75	Plain annealed wire, No. 8, per 100 lbs.	\$3 05
	1 10	Galvanized barb wire, per 100 lbs.	3 90
		Wire Cloth—black painted, 12-mesh, per 100 sq. ft.	1 65
POKERS, FURNACE		Cattle Wire—galvaniz'd catch weight spool, per 100 lbs.	3 65
Each	\$0 50	Galvanized Hog Wire, 80 rod spool, per spool	3 13
		Galvanized Plain Wire, No. 9, per 100 lbs.	3 40
		Stove Pipe, per stone	1 10
PULLEYS		WRINGERS	
Furnace Tackle per doz.	\$0 60	No. 790, Guarantee	each \$5 10
Furnace Screw (enameled) per gro.	6 00	No. 770, Bicycle	each 4 70
	75	No. 670, Domestic	each 4 35
		No. 110, Brighton	each 3 70
		No. 750, Guarantee	each 5 10
		No. 740, Bicycle	each 4 70
		No. 22, Pioneer	each 3 40
		No. 2, Superb	each 2 65
Ventilating Register			
Per gross	9 00		
Small, per pair	30		
Large, per pair	50		
PUTTY			
Commercial Putty, 100-lb Kits	\$3 40		
QUADRANTS			
Malleable Iron Damper	10%		
REDUCERS—Oval Stove Pipe			
Per Doz.			
7-6, 1 doz. in carton	\$2.25		
REGISTERS AND BORDERS—Baseboard, Floor and Wall.			
Cast Iron	20%		
Steel and Semi-Steel	40%		
Baseboard	40%		
Wall	40%		
Adjustable Ceiling Ventilators	40%		
Register Faces—Cast and Steel			
Japanned, Bronzed and Plated, 4x6 to 14x14	40%		
Large Register Faces—Cast, 14x14 to 38x42	60%		
Large Register Faces—Steel, 14x14 to 38x42	65%		
RIDGE ROLL			
Galv., Plain Ridge Roll, b'd'd	75-10-5%		
Galv., Plain Ridge Roll, crated	75-10%		
Globe Finials for Ridge Roll	50%		

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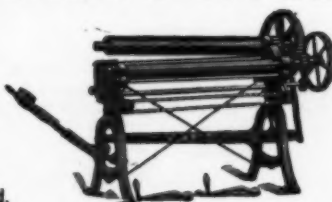
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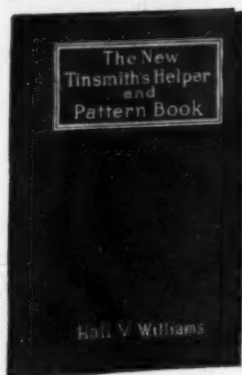
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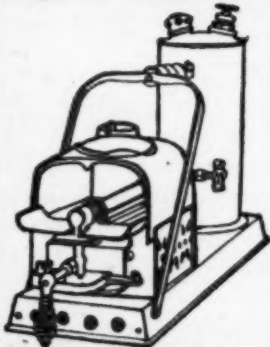
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Any yearly subscriber to **AMERICAN ARTISAN** may insert advertisements of not more than fifty words in our Want and Sales Columns **WITHOUT CHARGE**.

Such advertisements, however, must be limited to help or situation wanted, tools or equipment for sale, to exchange or to buy, business for sale or location desired.

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Would you pay three thousand dollars for four thousand five hundred dollars' worth of plumbing, heating and sheet metal stock, tools, fixtures and equipment, located in eastern Iowa, which is doing an annual business ranging from seventeen to twenty-four thousand dollars? If so and you want to do business write **B-61, care AMERICAN ARTISAN, 620 South Michigan Avenue, Chicago, Illinois.** 26-3t.

Wanted—Partner in a good going, established sheet metal and furnace business. Need a partner to help on sales, as well as the mechanical end of the business. The business will bear close investigation. For further information call or write **C. A. Fitch, 113 W. Jackson Street, Millersburg, Ohio.** 25-3t

For Sale—A splendid opportunity to enter the retail furnace business in western Iowa city. Will sell a part interest or all to man capable of taking charge of retail sales. Address—**B-51, care AMERICAN ARTISAN, 620 South Michigan Avenue, Chicago, Illinois.** 24-3t.

A splendid opportunity for a first class roofer in all branches to buy half interest in a good sheet metal business. In the best city in Florida. Must know how to figure from blue prints. Address **B-62, care AMERICAN ARTISAN, 620 South Michigan Avenue, Chicago, Illinois.** 26-3t.

For Sale—Warm Air heating and sheet metal business in busiest town of 150,000 population in central states or can use active partner. Prompt action necessary. Address—**B-49, care AMERICAN ARTISAN, 620 South Michigan Avenue, Chicago, Illinois.** 24-3t.

For Sale—Bargain on a good paying business. Property included 90 ft. front on Broadway by 120 ft. Full stock of new and second hand furniture, hardware, etc. Population of town 25,000. Address **Eckhard Merc. Co., 512 E. Broadway, Alton, Illinois.** 26-3t.

For Sale—Plumbing, heating and sheet metal shop; small town in eastern Iowa; must be sold soon; good reasons for selling. Address **B-53, care AMERICAN ARTISAN, 620 South Michigan Avenue, Chicago, Illinois.** 24-3t

For Sale—Tin shop. Good Kansas town, 5,000 inhabitants. Good reason for selling. Priced right and small amount capital required to handle. Address **B-59, care AMERICAN ARTISAN, 620 South Michigan Avenue, Chicago, Illinois.** 26-3t.

For Sale—Tin shop. Small stock and plenty of tools also cornice brake at Mount Victory, Ohio. No other tin shop there. Write **Arthur E. Hommel, Kenton, Ohio.** 24-3t.

Want to trade a bungalow at St. Paul, Minnesota, for a hardware store. Address **B-57, care AMERICAN ARTISAN, 620 South Michigan Avenue, Chicago, Illinois.** 26-3t.

Wanted—To hear from owner hardware store for sale. Cash price, particulars. **D. F. Bush, Minneapolis, Minnesota.** 26-2t.

SITUATION WANTED

Situation Wanted—As tinner and furnace man. Can also do plumbing. I am a good workman and not afraid to do an honest day's work. I am married and want a position in a town under 6,000 population. It must be steady the year around. State wages and particulars in your letter. Address **Box 175, Parkston, South Dakota.** 24-3t

Situation Wanted—By heating engineer with a thorough knowledge of furnace manufacturing and selling. Know what the dealer wants and how to open and build new accounts, also how to build and hold a producing sales organization. Address **B-54, care AMERICAN ARTISAN, 620 South Michigan Avenue, Chicago, Illinois.** 25-3t

Situation Wanted—By first-class tinner and furnace man. Can do inside and outside work. 25 years at the trade. Nothing but steady job the year around. Am married. Can do anything that comes in any tin shop. Address **W. J. Maek, 106½ East Main Street, Saint Charles, Illinois.** 25-5t

Situation Wanted—Young married man with 6 years' experience in sheet metal and furnace work. Also can do slate and tile roofing. Must be steady position. Qualifications and experience on request. High school graduate. Address **B-58, care AMERICAN ARTISAN, 620 South Michigan Avenue, Chicago, Illinois.** 26-3t.

Situation Wanted—By sheet metal worker with ten years' experience, who can work inside and outside, also make patterns and read blue prints. Age 32. Must be steady position with year around work. Address **B-63, care AMERICAN ARTISAN, 620 South Michigan Avenue, Chicago, Illinois.** 26-3t

Situation Wanted—By an all around sheet metal worker. Plumber and furnace man. Can come at once. State hours and wages in first letter. Best of references given. Address—**B-46, care AMERICAN ARTISAN, 620 South Michigan Avenue, Chicago, Illinois.** 24-3t.

Situation Wanted—Position as foreman or layout man. Experienced on all classes of light and heavy sheet metal work. Absolutely reliable. 42 years of age. Address—**B-44, care AMERICAN ARTISAN, 620 South Michigan Avenue, Chicago, Illinois.** 24-3t.

Situation Wanted—By middle aged tinner and furnace man. Good mechanic and wishes steady position in Oregon or Washington states only. Address **B-60, care AMERICAN ARTISAN, 620 South Michigan Avenue, Chicago, Illinois.** 26-3t.

Situation Wanted—By middle-aged married man. Combination plumber and sheet metal worker. Address **B-55, care AMERICAN ARTISAN, 620 South Michigan Avenue, Chicago, Illinois.** 25-3t

Situation Wanted—By Illinois licensed plumber. 19 years' experience. Married. Can do steam and hot water heating. A-1 mechanic. Address **Plumber, 724 Main Street, Apt. 4, Davenport, Iowa.** 25-3t

HELP WANTED

Wanted—A first-class sheet metal worker; knowledge of plumbing preferred. One capable of doing anything that comes in an ordinary shop, gutter, blowpiping, roofing, etc. Must be capable of doing good work in reasonable length of time. Give references, experience and wages. Address **B-64, care AMERICAN ARTISAN, 620 South Michigan Avenue, Chicago, Illinois.** 26-3t

Wanted—A man who can do sheet metal work, plumbing, steamfitting and furnace work. This is a steady position for the right man. This is a good Minnesota town about 3000 population. Please state wages and experience. Address—**B-48, care AMERICAN ARTISAN, 620 South Michigan Avenue, Chicago, Illinois.** 24-3t.

Wanted—Tinner for country tin shop; must be able to do work that comes to town of 5,000 people. Work guaranteed to Christmas. Wages \$30.00 per week. Must be capable of doing good work. Middle aged man preferred. Address **Murphy's Plumbing and Tin Shop, Flat River, Missouri.** 24-3t

Wanted—Two first-class tinner and furnace men that can complete a job in a first-class manner from start to finish. Must be sober and reliable. State wages wanted in your letter. Address **B-56, care AMERICAN ARTISAN, 620 South Michigan Avenue, Chicago, Illinois.** 25-3t

Wanted—We have an opening for a heating engineer with pep and ability to sell. State qualifications, experience and salary expected in first letter. Address **Meyers Fuel Saver Co., Inc., 314 West Milwaukee Street, Janesville, Wisconsin.** 26-3t

Wanted—First class sheet metal worker and slate roofer. Union shop. Steady position the year around. Must be absolutely sober and reliable and furnish references. Address—**B-50, care AMERICAN ARTISAN, 620 South Michigan Avenue, Chicago, Illinois.** 24-3t.

Wanted—Two sheet metal workers for a manufacturing and special job shop. \$30.00 per week of 50 hours per week. Open shop. Address—**B-45, care AMERICAN ARTISAN, 620 South Michigan Avenue, Chicago, Illinois.** 24-3t.

Wanted—Young married man preferred. Shop, furnace, gutter and roof work. Year around position. Town of 3000. Address—**B-38, care AMERICAN ARTISAN, 620 South Michigan Avenue, Chicago, Illinois.** 24-3t.

Wanted—Party with sales and mechanical ability to take local management of combination plumbing and tin shop. Must have \$500 to invest in business. This is a rare opportunity. **Illinois Plbg. & Htg. Company, Du Quoin, Illinois.** 25-3t

Wanted—At once, A-1 sheet metal worker and furnace installer. Union shop. Address **Robert F. Boehm, 2611 64th St., Kenosha, Wisconsin.** 26-3t.

Apollo NICKEL ZINC

PURE NICKEL SURFACE NON-RUSTING SHEETS

For Restaurants, Bakeries, Etc.

PRACTICALLY every business man in your territory is a live prospect for you if you stock **APOLLO NICKEL ZINC**.

Right now Restaurants that need new steam table tops should know about **APOLLO** and if the bakeries in your town knew you sold and applied **APOLLO NICKEL ZINC** you could land some nice sales and profits.

APOLLO NICKEL ZINC is just the metal for a hundred or more uses and we help you sell it. We send samples and letters direct to your prospects—send the coupon today for full details.



APOLLO METAL CO., LA SALLE, ILL.

Send me a sample of **APOLLO NICKEL ZINC** and full details about your advertising letters.

Name _____ Address _____

Mention **AMERICAN ARTISAN** in your reply—Thank you!

TINNERS' TOOLS

For Sale—We have 1 power conductor pipe seaming and corrugating machine, including mandrels, heads, etc., for plain round pipe 2" to 6"; 1 set mandrels, heads, etc., for round corrugated pipe 2" to 6"; 1 set mandrels, heads, etc., for square corrugated pipe 2" to 5" and 1 edging and 1 forming machine. The above is all in first class condition, and was purchased in the year 1925. Same has had very little usage and is therefore practically new. To anyone interested we will be pleased to quote our best price. Address—B-52, care AMERICAN ARTISAN, 620 South Michigan Avenue, Chicago, Illinois. 24-3t.

For Sale—A. P. S. & W. Heavy brake. Capable of 16 gauge and heavier. In good condition excepting a small place in top blade, bruised a little about an inch long. This could be welded in again at a very small cost. 5 wood molds with it. Originally cost \$500.00, will take \$275.00 for it. F. O. B. Huron, South Dakota. Huron Tin Shop, Huron, South Dakota. 24-3t.

Wanted—One used 36" adjustable bar folder. Address H. E. Clutterham, Sycamore, Illinois. 25-3t

BOOKS

The Ventilation Handbook, by Charles L. Hubbard. A practical book designed to cover the principles and practice of ventilation as applied to furnace heating, ducts, flues and dampers for gravity heating; fans and fan work for ventilation and hot blast heating by means of a comprehensive series of questions, answers and very plain descriptions easy to understand. Price \$2.00. Order from Book Dept., AMERICAN ARTISAN, 620 South Michigan Avenue, Chicago, Illinois.

Manual of Automotive Radiator Construction and Repair, by F. L. Curfman and T. H. Leet—Anyone interested in Radiator Repairing will find the 185 pages of practical instructions and the 120 illustrations showing actual construction and repairing a big help. In a condensed manner some four to five thousand answers to questions are given. It is thoroughly practical as both authors are men of wide experience in this work. Printed in large, easy to read type. Measures 5 1/2 x 9 inches. Price \$2.50. Order from Book Dept., AMERICAN ARTISAN, 620 South Michigan Avenue, Chicago, Illinois.

Exhaust and Blow Piping, by Hayes—Exhaust and Blow Piping has had an unusually big demand. A fresh supply is now off the press and is in our hands for immediate delivery. It has an invaluable treatise on the planning, cost, estimation and installation of fan piping in all its branches giving all necessary guidance in fan work blower and separator construction. 159 pages, 5x8. 51 figures. Cloth, \$2.00. Order from Book Dept., AMERICAN ARTISAN, 620 South Michigan Avenue, Chicago, Illinois.

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The Rate for Special Notices
— displayed want ads —
\$3.00 per inch per insertion.

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HUBERT E. PECK
Patent Attorney
Barrister Bldg., WASHINGTON, D. C.

**WANTED
MANAGERS AND SALESMEN**

We are in need of two managers and three salesmen to sell Round Oak Furnaces. Call or write, 711 South Wells Street, Chicago, Illinois. Round Oak Heating Company. 25-1t

SPECIAL NOTICES**WANTED**

Experienced Parlor Furnace Salesman wanted for Ohio. Must have successful record in this line. The Waterman-Waterbury Company, Minneapolis, Minnesota. 21-2t.



AREX
Original Siphonage Ventilator
The Power Fans
Only Rival!
200,000 Perfect Installations!
Write for prices today
AREX COMPANY 1581 Conway Bldg. CHICAGO



White Porcelain No. 1 Stove Leg Rest
INTRODUCTORY OFFER
100 Rests (25 sets of 4)
Costs you \$5.00
You get \$12.00
Retail 50c set of 4
Post Prepaid—anywhere
TECHNICAL PRODUCTS CO.
Pittsburgh, Pa.
Makers of
INSA-LUTE cement
(Furnace sealing paint)
Special discount to Jobbers and Manufacturers



AKRAT SIPHONAGE VENTILATOR
Simple in design—Accurate in detail.
EFFICIENT IN EXHAUST
Write for prices.
AKRAT VENTILATORS, INC.
1191 Builders Bldg. CHICAGO

SPECIAL NOTICES**SITUATION WANTED**

I am interested in a new opportunity with a manufacturer of hardware, sheet metal or furnace fitting and supplies, as I have resigned my position as general traveling sales representative with Charles Johnson Co., Inc. Address F. G. Carpenter, 6978 Greenview Ave., Chicago, Illinois. 22-2t.

**PROFITS
In Business—In Health
TAKE YOURS**

IF You Are Spending Money for Advertising—If You Are in the Advertising Business—If You Wish to Gain Profitable Advertising, Merchandising, Production, and Sales Ideas—

If You Do—Skip up to delightful Colorado in the happiest month of the year and put in three intensive days with hundreds of other SUCCESSFUL MEN AND WOMEN in one of the largest PROSPERITY-BUILDING INSTITUTIONS in the world—

**The Annual Convention
of the International
Advertising Association**

at Denver
JUNE 26—29

Experts are building an unrivalled program. General sessions will be given over to the problems of American Industries. Big men in business will give messages from their respective industries. Departmental sessions will take up the technical phases of advertising. Denver people are setting up an appealing entertainment schedule that will be distinctly western in flavor.

Profits in Health—They await you, too. Start your vacation as soon as the Convention ends. You've heard of that marvelous Denver and Colorado climate—get your share of it; it's there for you. And, that gorgeous mountain scenery—you'll want to see all the Rockies have to offer in all their rugged beauty at one of the best times of the year.

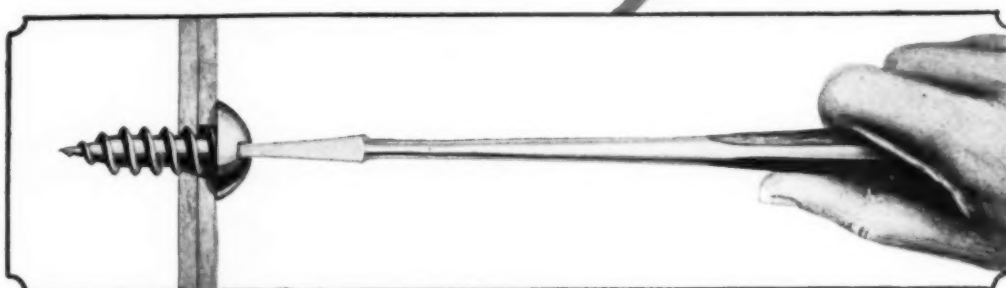
ACT PROMPTLY

The Advertising Club in your city will give you full information concerning the Convention, the low railroad rates, hotel accommodations, after-convention tours, and the like—will help you to arrange your trip; or you may communicate directly with

**THE INTERNATIONAL
ADVERTISING ASSOCIATION**
420 Lexington Ave. New York, N.Y.

Gilbert T. Hodges, General Chairman
On-to-Denver Committee

These self-tapping screws make substantial fastenings to sheet metal!



Easier

because they are used in sheet metal like wood screws are used in wood. There's nothing simpler.

Quicker

because you can make a first-class fastening with these screws in half the time and with a fraction of the effort that other methods require.

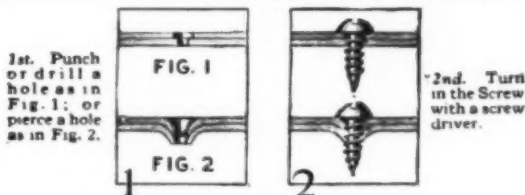
Cheaper

because they eliminate taps and tapping operations and save from 50% to 75% of the cost of making sheet metal assemblies by any other means

PARKER-KALON Hardened Self-Tapping **SHEET METAL SCREWS** offer an easier, quicker and cheaper method of making sheet metal assemblies. They make better —stronger—fastenings than machine screws, stove bolts, etc. —fastenings that won't readily loosen under vibration.

These Screws cut their own thread in the metal as they are screwed in, thus eliminating the expensive tapping operation. They are much easier to use than stove bolts, rivets, etc., and can be screwed into many places where stove bolts and rivets cannot be used.

Anyone can use them —no skill required. Only two easy operations:



More than 35,000 sheet metal workers and furnacemen use these Screws for joining heating and ventilating ducts, putting up stove pipe, making furnace fittings, joining sections of cornices and attaching ornaments to cornices, etc. In fact, they save time, labor and money on sheet metal work of every description.

Made in six stock sizes with round or flat heads. The most popular sizes are No. 7 x $\frac{1}{2}$ ", No. 10 x $\frac{3}{4}$ ", No. 14 x $\frac{1}{2}$ " round head. More than 500 jobbers carry them in stock.

PARKER-KALON CORPORATION, 354 W. 13th St., New York

PARKER-KALON HARDENED SELF-TAPPING Sheet Metal Screws

PATENTED
APR. 1, 1919—No. 1299272 — MAR. 28, 1922—No. 1411184
AUG. 14, 1923—No. 1465148 — FEB. 10, 1925—No. 1526102
OTHERS PENDING



Prove this yourself!

Let us send you free samples of these time- and labor-saving Screws. Or better still, order a gross of each of the sizes mentioned above from your jobber and see why they are so extensively used by sheet metal workers.
PARKER-KALON CORPORATION
354 W. 13th St., New York, N. Y.



Get known in your vicinity as The Ventilation Expert

CHANCES are that if you went after the Ventilation business which you are missing, the profit would more than pay all your expenses. There's money in ventilators and a big, undeveloped market.

You are equipped to handle this work. Go after it. Let the architects know about the complete line of Milcor Ventilators you can furnish and erect. Make a list of every building in your vicinity now under construction, and of old buildings that might be improved by proper ventilation.

Barns, Factories, Stores, Theatres, Creameries, Office Buildings, Public Buildings, Apartments, Churches, and many other structures, need ventilators—a big market.

These Ventilators Establish You as an Expert in Ventilation

Milcor Ventilators will "make good" for you. The line is complete, with an efficient type of Ventilator for every condition encountered. A few successful installations by you will quickly establish your dependability on work of this sort. You can build up valuable prestige by installing Milcor Ventilators. Give this your most earnest attention and lay definite plans to develop this phase of your business.

Quantities of illustrated literature, bearing your own imprint, gladly furnished free, on request.

MILWAUKEE CORRUGATING COMPANY
MILWAUKEE, WISCONSIN

Chicago, Ill.

Kansas City, Mo.

La Crosse, Wis.

MILCOR

Ventilators

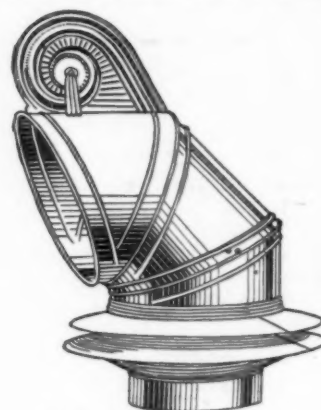
MILCOR *Ventilators are Highly Recommended*

—FOR INSTANCE:

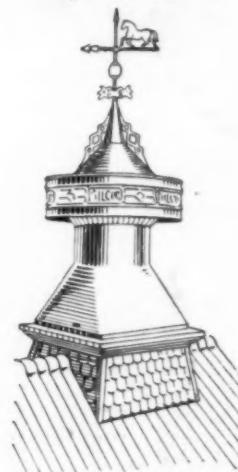
"We are very much pleased that all your promises have proven true and we take pleasure in recommending your ventilators for theatres"—From Theatre Visalia, Calif.

"This is the only ventilator with an induced draft that would fully meet our requirements"—From Standard Oil Company of Louisiana.

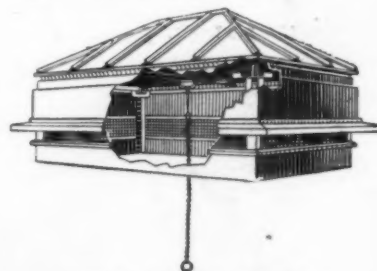
And on thousands of other successful installations of Milcor Ventilators, the owners are also boosters.



*Milcor "Alpina" Revolving
Syphon Ventilator*



Milcor Barn Ventilator and Cupola
(Notice Roof of "Kuehn's Ridge-Sheet", the famous new Milcor Product combining Ridge Roll and Roofing Sheet in one unit.)



Milcor Ventilating Skylights

Many stock models, or made in any designs desired to meet architects' specifications.

If you haven't a copy now, write for the "Milcor Architectural Sheet Metal Guide". It's Free.



Get known in your vicinity as The Ventilation Expert

CHANCES are that if you went after the Ventilation business which you are missing, the profit would more than pay all your expenses. There's money in ventilators and a big, undeveloped market.

You are equipped to handle this work. Go after it. Let the architects know about the complete line of Milcor Ventilators you can furnish and erect. Make a list of every building in your vicinity now under construction, and of old buildings that might be improved by proper ventilation.

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Milcor Ventilators will "make good" for you. The line is complete, with an efficient type of Ventilator for every condition encountered. A few successful installations by you will quickly establish your dependability on work of this sort. You can build up valuable prestige by installing Milcor Ventilators. Give this your most earnest attention and lay definite plans to develop this phase of your business.

Quantities of illustrated literature, bearing your own imprint, gladly furnished free, on request.

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MILCOR *Ventilators are Highly Recommended*

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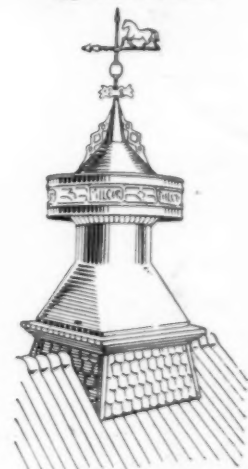
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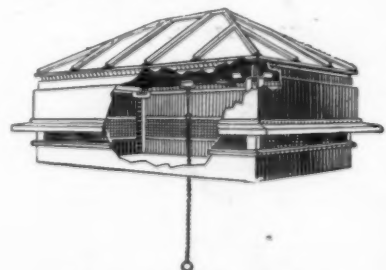
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*Milcor "Alpina" Revolving
Syphon Ventilator*



Milcor Barn Ventilator and Cupola
(Notice Roof of "Kuehn's Ridge-Sheet", the famous new Milcor Product combining Ridge Roll and Roofing Sheet in one unit.)



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Many stock models, or made in any designs desired to meet architects' specifications.

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